

SEQUENCE LISTING

<110> Lehmann-Bruinsma, Karin
 Liaw, Chen W.
 Lin, I-Lin

<120> Non-Endogenous, Constitutively Activated Known G
 Protein-Coupled Receptors

<130> AREN-207

<140>

<141>

<150> 60/195,747

<151> 2000-04-07

<150> 09/170,496

<151> 1998-10-13

<160> 589

<170> PatentIn Version 2.1

<210> 1

<211> 36

<212> DNA

<213> Homo sapiens

<400> 1

cggaagctta gccatggatg tgctcagccc tggtea

36

<210> 2

<211> 34

<212> DNA

<213> Homo sapiens

<400> 2

ccggaattcc tggcggcaga agttacactt aatg

34

<210> 3

<211> 32

<212> DNA

<213> Homo sapiens

<400> 3

tccaagcttg gggcgaggag agccatggag ga

32

<210> 4

<211> 35

<212> DNA

<213> Homo sapiens

<400> 4

ggcgaattca cttgtgcact taaaacgtat cagtt	35
<210> 5 <211> 30 <212> DNA <213> Homo sapiens	
<400> 5 atctaccatg tccccactga accagtcagc	30
<210> 6 <211> 32 <212> DNA <213> Homo sapiens	
<400> 6 atagaattcg gaggccttcc ggaaagggac aa	32
<210> 7 <211> 34 <212> DNA <213> Homo sapiens	
<400> 7 ccacagtgtc gactgaaaca agggaaacat gaac	34
<210> 8 <211> 25 <212> DNA <213> Homo sapiens	
<400> 8 cagtatgctc tcggcatcta atgag	25
<210> 9 <211> 31 <212> DNA <213> Homo sapiens	
<400> 9 atcaccatgg atttcttaaa ttcatctgat c	31
<210> 10 <211> 33 <212> DNA <213> Homo sapiens	
<400> 10 ttaggatcca catcgacatc gcacaagctt ttg	33

TTGGGTTG-AGGGGAGG

<210> 11
<211> 37
<212> DNA
<213> Homo sapiens

<400> 11
gaaaagcttg ccatggctct ctcttacaga gtgtctg 37

<210> 12
<211> 35
<212> DNA
<213> Homo sapiens

<400> 12
gttgatcct acataactaa ctgctcttc agttt 35

<210> 13
<211> 32
<212> DNA
<213> Homo sapiens

<400> 13
atcaccatgg acaaacttga tgctaattgtg ag 32

<210> 14
<211> 33
<212> DNA
<213> Homo sapiens

<400> 14
cctgaattcg aagcatgatt ccagggattc tgg 33

<210> 15
<211> 32
<212> DNA
<213> Homo sapiens

<400> 15
atcaccatgg acaaacttga tgctaattgtg ag 32

<210> 16
<211> 33
<212> DNA
<213> Homo sapiens

<400> 16
agggaattca gtgtcactgg gctgagcagc cac 33

<210> 17
<211> 32
<212> DNA

Table 1. Continued	
1.00	1.00
0.99	0.99
0.98	0.98
0.97	0.97
0.96	0.96
0.95	0.95
0.94	0.94
0.93	0.93
0.92	0.92
0.91	0.91
0.90	0.90
0.89	0.89
0.88	0.88
0.87	0.87
0.86	0.86
0.85	0.85
0.84	0.84
0.83	0.83
0.82	0.82
0.81	0.81
0.80	0.80
0.79	0.79
0.78	0.78
0.77	0.77
0.76	0.76
0.75	0.75
0.74	0.74
0.73	0.73
0.72	0.72
0.71	0.71
0.70	0.70
0.69	0.69
0.68	0.68
0.67	0.67
0.66	0.66
0.65	0.65
0.64	0.64
0.63	0.63
0.62	0.62
0.61	0.61
0.60	0.60
0.59	0.59
0.58	0.58
0.57	0.57
0.56	0.56
0.55	0.55
0.54	0.54
0.53	0.53
0.52	0.52
0.51	0.51
0.50	0.50
0.49	0.49
0.48	0.48
0.47	0.47
0.46	0.46
0.45	0.45
0.44	0.44
0.43	0.43
0.42	0.42
0.41	0.41
0.40	0.40
0.39	0.39
0.38	0.38
0.37	0.37
0.36	0.36
0.35	0.35
0.34	0.34
0.33	0.33
0.32	0.32
0.31	0.31
0.30	0.30
0.29	0.29
0.28	0.28
0.27	0.27
0.26	0.26
0.25	0.25
0.24	0.24
0.23	0.23
0.22	0.22
0.21	0.21
0.20	0.20
0.19	0.19
0.18	0.18
0.17	0.17
0.16	0.16
0.15	0.15
0.14	0.14
0.13	0.13
0.12	0.12
0.11	0.11
0.10	0.10
0.09	0.09
0.08	0.08
0.07	0.07
0.06	0.06
0.05	0.05
0.04	0.04
0.03	0.03
0.02	0.02
0.01	0.01
0.00	0.00

32

34

34

32

32

39

39

32

32

33

33

cctaagcttg ccatggattt accagtgaac ctaacctcc	39
<210> 24 <211> 35 <212> DNA <213> Homo sapiens	
<400> 24 tctgaattcg tgttgcctag aaaagaagtt cttga	35
<210> 25 <211> 31 <212> DNA <213> Homo sapiens	
<400> 25 agcgggaattc ggcggcgcgga tgatggacgt t	31
<210> 26 <211> 30 <212> DNA <213> Homo sapiens	
<400> 26 tttcggatcc attgttctgc tttcaatcat	30
<210> 27 <211> 31 <212> DNA <213> Homo sapiens	
<400> 27 caggaattca gaacacctgc cccagcccca c	31
<210> 28 <211> 33 <212> DNA <213> Homo sapiens	
<400> 28 agcggatccc gatgaagtgt ccttggccag gga	33
<210> 29 <211> 30 <212> DNA <213> Homo sapiens	
<400> 29 acagaattca gaagaaatgg ctcaaaggca	30

<210> 30
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 30
 catggatcct tgaaaagcta gaaactgtcc 30

<210> 31
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 31
 tgtaagcttc aggtcactgt gcatggcatc atc 33

<210> 32
 <211> 36
 <212> DNA
 <213> Homo sapiens

<400> 32
 gctggatcca ttccgccaga aaagttggaa gatttc 36

<210> 33
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 33
 actaagcttc caaatgttct ctccctggaa gata 34

<210> 34
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 34
 gttgaattcc tgtctgctcc ctgccagtc ctg 33

<210> 35
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 35
 cagaagctta gcaatggcgt ctttctctgc tg 32

<210> 36
 <211> 37
 <212> DNA

<213> Homo sapiens

<400> 36

acaggatccc acagttgtac tatttctttc tgaaatg

37

<210> 37

<211> 34

<212> DNA

<213> Homo sapiens

<400> 37

gggaagctta ggagaccaga acatgaactc cttc

34

<210> 38

<211> 33

<212> DNA

<213> Homo sapiens

<400> 38

tgtgaattcc actgcctggg tcttctgggc cat

33

<210> 39

<211> 32

<212> DNA

<213> Homo sapiens

<400> 39

gggaagcttt ctcaatcatt ttgagctcag cc

32

<210> 40

<211> 33

<212> DNA

<213> Homo sapiens

<400> 40

tcagaattcc agagcctcgg cagacgtgtc tgt

33

<210> 41

<211> 33

<212> DNA

<213> Homo sapiens

<400> 41

caaaagcttc tagacaagct cagtggaaac tga

33

<210> 42

<211> 34

<212> DNA

<213> Homo sapiens

<400> 42

gccgaattcg caatcagaga ggtctagatc tctg 34

<210> 43
<211> 31
<212> DNA
<213> Homo sapiens

<400> 43
gacaagcttc cccagtacat ccacaacatg c 31

<210> 44
<211> 33
<212> DNA
<213> Homo sapiens

<400> 44
ctcggatcct aaaccagccg agacttcctg ctc 33

<210> 45
<211> 33
<212> DNA
<213> Homo sapiens

<400> 45
atcgccatga caacctcact agatacagtt gag 33

<210> 46
<211> 33
<212> DNA
<213> Homo sapiens

<400> 46
tctgaattca aacacaatag agagttccg ctc 33

<210> 47
<211> 34
<212> DNA
<213> Homo sapiens

<400> 47
gcaaagcttg gaacaagatg gattatcaag tgtc 34

<210> 48
<211> 33
<212> DNA
<213> Homo sapiens

<400> 48
tccgatccc aagcccacag atatttcctg ctc 33

<210> 49
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 49
 tgaaagcttc ccgctgcctt gatggattat ac 32

<210> 50
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 50
 tgagaattcc aaaatgtagt ctacgctgga ggaa 34

<210> 51
 <211> 59
 <212> DNA
 <213> Homo sapiens

<400> 51
 atcaccatga caccacaga cttcacaagc cctattccta acatggctga tgactatgg 59

<210> 52
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 52
 gacgaattcg agggagagtg ctctgaggt tgt 33

<210> 53
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 53
 atcaccatgg gagggcaccc gcagctccgt 30

<210> 54
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 54
 cggaattcg actgctgtgg actgcttgat gct 33

<210> 55
 <211> 54
 <212> DNA

<213> Homo sapiens

<400> 55

atcaccatgg aggggatcag tatatacact tcagataact acaccgagga aatg 54

<210> 56

<211> 35

<212> DNA

<213> Homo sapiens

<400> 56

tctgaattcg ctggagtga aacttgaaga ctacg 35

<210> 57

<211> 30

<212> DNA

<213> Homo sapiens

<400> 57

aagaagcttg gcatcacgca cctcctctgg 30

<210> 58

<211> 28

<212> DNA

<213> Homo sapiens

<400> 58

ggctctagaa atgggtacaa agagtgtt 28

<210> 59

<211> 29

<212> DNA

<213> Homo sapiens

<400> 59

cggaagcttc tggagcaggt agcagcatg 29

<210> 60

<211> 36

<212> DNA

<213> Homo sapiens

<400> 60

cttggatcca gatgagctgt atttattact ggaacg 36

<210> 61

<211> 30

<212> DNA

<213> Homo sapiens

<400> 61

atcaccatgg agacaaattc ctctctcccc 30

<210> 62
<211> 33
<212> DNA
<213> Homo sapiens

<400> 62
cccgaattcc ttgacctgta actccacctc tgc 33

<210> 63
<211> 33
<212> DNA
<213> Homo sapiens

<400> 63
gcaaagcttg ctgctggcaa gatggaaacc aac 33

<210> 64
<211> 33
<212> DNA
<213> Homo sapiens

<400> 64
ccagaattcc attgcctgta actcagtctc tgc 33

<210> 65
<211> 30
<212> DNA
<213> Homo sapiens

<400> 65
ccggaattcg ccgggacagc cccgcgggcc 30

<210> 66
<211> 33
<212> DNA
<213> Homo sapiens

<400> 66
gcaggatcct tatcacacat gactacaatt ggt 33

<210> 67
<211> 31
<212> DNA
<213> Homo sapiens

<400> 67
ggcgaattcg gggtcagcgg caccatgaac g 31

<210> 68
 <211> 29
 <212> DNA
 <213> Homo sapiens

<400> 68
 gtgggatccc agcgcgccccg ctaagtgct 29

<210> 69
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 69
 cagaagcttc gccgccctca cgatgactac 30

<210> 70
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 70
 cgcgaattcg cagtaacttt ccaactccccg gct 33

<210> 71
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 71
 tatgaattca gatgctctaa acgtccctgc 30

<210> 72
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 72
 tccggatcca cctgcacctg cgctgcacc 30

<210> 73
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 73
 aggaagcttt taggtgggaa aaaaaatcta 30

<210> 74
 <211> 31
 <212> DNA

<213> Homo sapiens

<400> 74
ccggaattca aggggcaaaa tcaagggtca a 31

<210> 75
<211> 32
<212> DNA
<213> Homo sapiens

<400> 75
gccaaaggtta gccaccatga acacttcagc cc 32

<210> 76
<211> 33
<212> DNA
<213> Homo sapiens

<400> 76
ggagaattcg cattggcggg agggagtgcg gtg 33

<210> 77
<211> 33
<212> DNA
<213> Homo sapiens

<400> 77
atcaccatga ataactcaac aaactcctct aac 33

<210> 78
<211> 33
<212> DNA
<213> Homo sapien

<400> 78
gatgaattcc cttgtagcgc ctatgttctt ata 33

<210> 79
<211> 32
<212> DNA
<213> Homo sapiens

<400> 79
atcaccatga ccttgcaaaa taacagtaca ac 32

<210> 80
<211> 33
<212> DNA
<213> Homo sapiens

<400> 80

ctcgaaattc caaggcctgc tcgggtgcgc gct	33
<p><210> 81 <211> 29 <212> DNA <213> Homo sapiens</p>	
<p><400> 81 atcaccatgg ccaacttcac acctgtcaa</p>	29
<p><210> 82 <211> 33 <212> DNA <213> Homo sapiens</p>	
<p><400> 82 gccgaattcc ctggcagtgc cgatgttccg ata</p>	33
<p><210> 83 <211> 30 <212> DNA <213> Homo sapiens</p>	
<p><400> 83 atcaccatgg aaggggattc ttaccacaat</p>	30
<p><210> 84 <211> 33 <212> DNA <213> Homo sapiens</p>	
<p><400> 84 gacggatccg ggtagcttgc tgttcccctg cca</p>	33
<p><210> 85 <211> 30 <212> DNA <213> Homo sapiens</p>	
<p><400> 85 caggaattct gacagcaatg aatgcttcgt</p>	30
<p><210> 86 <211> 33 <212> DNA <213> Homo sapiens</p>	
<p><400> 86 aatggatcct atcccaagtt catgccgttg cag</p>	33

<210> 87
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 87
 agtaagcttt acgcctagct tcgaaatgga t 31

<210> 88
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 88
 tgtgaattcg gagagcacat tggaggagaa gct 33

<210> 89
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 89
 tccaagctta gaagcagcca tggggacctg tgaca 35

<210> 90
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 90
 aacgaattca atttcaacat gagttttggt ggggg 35

<210> 91
 <211> 27
 <212> DNA
 <213> Homo sapiens

<400> 91
 atctgcagac cggtggcgat ggccact 27

<210> 92
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 92
 atgggatcca gaatattcat ccacagaggt atagg 35

<210> 93
 <211> 31
 <212> DNA

<213> Homo sapiens

<400> 93
tgagaattcc agcggactct gctggaaagg a 31

<210> 94
<211> 30
<212> DNA
<213> Homo sapiens

<400> 94
gttgatcca ggtagtgagt tgaatggcca 30

<210> 95
<211> 31
<212> DNA
<213> Homo sapiens

<400> 95
ggaaagcttc aagaaagact ataatatgga t 31

<210> 96
<211> 32
<212> DNA
<213> Homo sapiens

<400> 96
ggaggatcca gtgagaatta ttacatatga ag 32

<210> 97
<211> 33
<212> DNA
<213> Homo sapiens

<400> 97
cggaagcttg cagccatgga accggccccc tcc 33

<210> 98
<211> 33
<212> DNA
<213> Homo sapiens

<400> 98
gccgaattcg gcggcagcgc caccgccggg acc 33

<210> 99
<211> 31
<212> DNA
<213> Homo sapiens

<400> 99

Table 1. Continued	
1997-1998	1998-1999
1999-2000	2000-2001
2001-2002	2002-2003
2003-2004	2004-2005
2005-2006	2006-2007
2007-2008	2008-2009
2009-2010	2010-2011
2011-2012	2012-2013
2013-2014	2014-2015
2015-2016	2016-2017
2017-2018	2018-2019
2019-2020	2020-2021
2021-2022	2022-2023
2023-2024	2024-2025
2025-2026	2026-2027
2027-2028	2028-2029
2029-2030	2030-2031
2031-2032	2032-2033
2033-2034	2034-2035
2035-2036	2036-2037
2037-2038	2038-2039
2039-2040	2040-2041
2041-2042	2042-2043
2043-2044	2044-2045
2045-2046	2046-2047
2047-2048	2048-2049
2049-2050	2050-2051
2051-2052	2052-2053
2053-2054	2054-2055
2055-2056	2056-2057
2057-2058	2058-2059
2059-2060	2060-2061
2061-2062	2062-2063
2063-2064	2064-2065
2065-2066	2066-2067
2067-2068	2068-2069
2069-2070	2070-2071
2071-2072	2072-2073
2073-2074	2074-2075
2075-2076	2076-2077
2077-2078	2078-2079
2079-2080	2080-2081
2081-2082	2082-2083
2083-2084	2084-2085
2085-2086	2086-2087
2087-2088	2088-2089
2089-2090	2090-2091
2091-2092	2092-2093
2093-2094	2094-2095
2095-2096	2096-2097
2097-2098	2098-2099
2099-2100	2100-2101
2101-2102	2102-2103
2103-2104	2104-2105
2105-2106	2106-2107
2107-2108	2108-2109
2109-2110	2110-2111
2111-2112	2112-2113
2113-2114	2114-2115
2115-2116	2116-2117
2117-2118	2118-2119
2119-2120	2120-2121
2121-2122	2122-2123
2123-2124	2124-2125
2125-2126	2126-2127
2127-2128	2128-2129
2129-2130	2130-2131
2131-2132	2132-2133
2133-2134	2134-2135
2135-2136	2136-2137
2137-2138	2138-2139
2139-2140	2140-2141
2141-2142	2142-2143
2143-2144	2144-2145
2145-2146	2146-2147
2147-2148	2148-2149
2149-2150	2150-2151
2151-2152	2152-2153
2153-2154	2154-2155
2155-2156	2156-2157
2157-2158	2158-2159
2159-2160	2160-2161
2161-2162	2162-2163
2163-2164	2164-2165
2165-2166	2166-2167
2167-2168	2168-2169
2169-2170	2170-2171
2171-2172	2172-2173
2173-2174	2174-2175
2175-2176	2176-2177
2177-2178	2178-2179
2179-2180	2180-2181
2181-2182	2182-2183
2183-2184	2184-2185
2185-2186	2186-2187
2187-2188	2188-2189
2189-2190	2190-2191
2191-2192	2192-2193
2193-2194	2194-2195
2195-2196	2196-2197
2197-2198	2198-2199
2199-2200	2200-2201
2201-2202	2202-2203
2203-2204	2204-2205
2205-2206	2206-2207
2207-2208	2208-2209
2209-2210	2210-2211
2211-2212	2212-2213
2213-2214	2214-2215
2215-2216	2216-2

```
<210> 107
<211> 31
<212> DNA
<213> Homo sapiens
```

```
<210> 108
<211> 36
<212> DNA
<213> Homo sapiens
```

```
<210> 109
<211> 29
<212> DNA
<213> Homo sapiens
```

```
<210> 110
<211> 33
<212> DNA
<213> Homo sapiens
```

```
<210> 111
<211> 31
<212> DNA
<213> Homo sapiens
```

$\langle 210 \rangle$	112
$\langle 211 \rangle$	33
$\langle 212 \rangle$	DNA

Variable	Mean	SD	Min	Max
Age	38.5	12.5	25	65
Gender	Male	Female		
Marital status	Married	Single		
Education	High school	College		
Occupation	Manager	Worker		
Income	\$30,000	\$40,000		
Health status	Good	Fair		
Exercise frequency	Weekly	Monthly		
Stress level	Low	High		
Sleep quality	Good	Poor		
Dietary habits	Healthy	Unhealthy		
Alcohol consumption	None	Occasional		
Tobacco use	Non-smoker	Smoker		
Family size	2	3		
Work hours	40	50		
Commuting time	30	45		
Home ownership	Owner	Renter		
Neighborhood safety	Safe	Unsafe		
Access to parks	Yes	No		
Public transportation	Good	Poor		
Crime rate	Low	High		
Property taxes	Low	High		
Quality of schools	Good	Poor		
Healthcare access	Good	Poor		
Environmental quality	Good	Poor		
Community involvement	High	Low		
Local government responsiveness	Good	Poor		
Overall satisfaction	High	Low		

<400> 112
ctggaattca aggtcagcct gtttactggc atc 33

```
<210> 113
<211> 27
<212> DNA
<213> Homo sapiens
```

<400> 113
atcatcatgt ccactcccg ggtcaat 27

```
<210> 114
<211> 37
<212> DNA
<213> Homo sapiens
```

<400> 114
tgcgaattct atacattttt ctgataagtt cagtgtt 37

```
<210> 115
<211> 30
<212> DNA
<213> Homo sapiens
```

<400> 115
ctgaagcttc ctacagccgt tccgggcatg 30

```
<210> 116
<211> 26
<212> DNA
<213> Homo sapiens
```

<400> 116
cgagaacatc ctcagtttct ccttgg 26

```
<210> 117
<211> 32
<212> DNA
<213> Homo sapiens
```

<400> 117
gggaagcttg cgggcaccat ggcgtcccac ct 32

```
<210> 118
<211> 33
<212> DNA
<213> Homo sapiens
```

<400> 118

<210> 125
<211> 30
<212> DNA
<213> Homo sapiens

<400> 125
tctaagcttg cagagcctga cgcaccccag 30

<210> 126
<211> 31
<212> DNA
<213> Homo sapiens

<400> 126
cctgaattcc tgggggtgac acggggccgc c 31

<210> 127
<211> 30
<212> DNA
<213> Homo sapiens

<400> 127
ggcgaattcg gaggatggag aaatagcccc 30

<210> 128
<211> 30
<212> DNA
<213> Homo sapiens

<400> 128
gtaggatccc ctaccattgt gagtagtgta 30

<210> 129
<211> 32
<212> DNA
<213> Homo sapiens

<400> 129
ccgaagcttc agggcagacc atgcgcccgc ca 32

<210> 130
<211> 33
<212> DNA
<213> Homo sapiens

<400> 130
tgggaattcg accagggaga cttcggcttg gaa 33

<210> 131
<211> 36
<212> DNA

<213> Homo sapiens

<400> 131

gctaagcttg ccatgctggac gctgctgcct cccgcg

36

<210> 132

<211> 33

<212> DNA

<213> Homo sapiens

<400> 132

gtggaattcg atgaccgagg tctccgtttg cag

33

<210> 133

<211> 29

<212> DNA

<213> Homo sapiens

<400> 133

atcacatgc gtctctccgc cggccccga

29

<210> 134

<211> 25

<212> DNA

<213> Homo sapiens

<400> 134

ttgttcacct cgatcatgga gaaga

25

<210> 135

<211> 24

<212> DNA

<213> Homo sapiens

<400> 135

cgcagtactt cgtcttctcc atga

24

<210> 136

<211> 35

<212> DNA

<213> Homo sapiens

<400> 136

caagaattca gttgaaacag gaatgaattt gatgg

35

<210> 137

<211> 35

<212> DNA

<213> Homo sapiens

<400> 137

acagaattct ccagttctca ttttcttata cgtac 35

<210> 138
<211> 30
<212> DNA
<213> Homo sapiens

<400> 138
gcaaagcttg ctcatggatt ctgggcctct 30

<210> 139
<211> 33
<212> DNA
<213> Homo sapiens

<400> 139
tctgaattca aagatgatgg tctcagcggg gcc 33

<210> 140
<211> 35
<212> DNA
<213> Homo sapiens

<400> 140
caagaattca gttgaaacag gaatgaattt gatgg 35

<210> 141
<211> 37
<212> DNA
<213> Homo sapiens

<400> 141
gccaagatcc gcacgaagaa gatgactttt gtgatcg 37

<210> 142
<211> 27
<212> DNA
<213> Homo sapiens

<400> 142
cataagcttt cccgccaccc tatcact 27

<210> 143
<211> 28
<212> DNA
<213> Homo sapiens

<400> 143
actgaattct gctcaatcca gctcccca 28

[illegible]

```
<210> 151
<211> 25
<212> DNA
<213> Homo sapiens
```

```
<210> 152
<211> 26
<212> DNA
<213> Homo sapiens
```

```
<210> 153
<211> 36
<212> DNA
<213> Homo sapiens
```

```
<210> 154
<211> 33
<212> DNA
<213> Homo sapiens
```

```
<210> 155
<211> 26
<212> DNA
<213> Homo sapiens
```

```
<210> 156
<211> 34
<212> DNA
<213> Homo sapiens
```

25

gcaggctgtc gacctcgtcc tcaccacccat ggtc 34

<210> 157
<211> 37
<212> DNA
<213> Homo sapiens

<400> 157
aatgggctca cagcctgtta gatctgcatt gggccac 37

<210> 158
<211> 28
<212> DNA
<213> Homo sapiens

<400> 158
taacaggctg tgagcccatt cctgtgcg 28

<210> 159
<211> 34
<212> DNA
<213> Homo sapiens

<400> 159
ttagaattcg cattccctgc ccctgccttc tttc 34

<210> 160
<211> 33
<212> DNA
<213> Homo sapiens

<400> 160
tgcgaattct aatggcaagt ctgtgtcatg gtc 33

<210> 161
<211> 33
<212> DNA
<213> Homo sapiens

<400> 161
tccgatccc aggggtggaag agctttgctt gta 33

<210> 162
<211> 30
<212> DNA
<213> Homo sapiens

<400> 162
gtgaagcttg cctctgggtgc ctgcaggagg 30

cccaagcttc agtaccatgg acagcagcgc tgcc 34

<210> 176
<211> 39
<212> DNA
<213> Homo sapiens

<400> 176
catcttggtg tatctgacaa tcacatacat gaccaggaa 39

<210> 177
<211> 39
<212> DNA
<213> Homo sapiens

<400> 177
gtatgtgatt gtcagataca ccaagatgaa gactgccac 39

<210> 178
<211> 39
<212> DNA
<213> Homo sapiens

<400> 178
tacaatctat ggaaccttgc ctgtattttg ttgtagcca 39

<210> 179
<211> 39
<212> DNA
<213> Homo sapiens

<400> 179
caaaatacag gcaagggtcc atagattgta cactaacat 39

<210> 180
<211> 27
<212> DNA
<213> Homo sapiens

<400> 180
cgggcaacgg agcagtttct gcttcag 27

<210> 181
<211> 31
<212> DNA
<213> Homo sapiens

<400> 181
atggaattct gctgcagcgg ctcttgagct c 31

<210> 182
 <211> 36
 <212> DNA
 <213> Homo sapiens

<400> 182
 acggacacag cctgtagata ggggatgacc ttgcag 36

<210> 183
 <211> 37
 <212> DNA
 <213> Homo sapiens

<400> 183
 atcccctatc tacaggctgt gtccgtgtca gtggcag 37

<210> 184
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 184
 ggaggatcca gggcagccct cgctcagggc 30

<210> 185
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 185
 cgcaagctta ggcggtggcg atggggaccg cc 32

<210> 186
 <211> 26
 <212> DNA
 <213> Homo sapiens

<400> 186
 ggatgtggtc ccattccggc agacag 26

<210> 187
 <211> 25
 <212> DNA
 <213> Homo sapiens

<400> 187
 aggaggcacc cactggcagc aggta 25

<210> 188
 <211> 33
 <212> DNA

[illegible]

```
<210> 189
<211> 32
<212> DNA
<213> Homo sapiens
```

```
<210> 190
<211> 32
<212> DNA
<213> Homo sapiens
```

```
<210> 191
<211> 32
<212> DNA
<213> Homo sapiens
```

```
<210> 192
<211> 32
<212> DNA
<213> Homo sapiens
```

```
<210> 193
<211> 37
<212> DNA
<213> Homo sapiens
```

```
<210> 194
<211> 37
<212> DNA
<213> Homo sapiens
```

31

gaatgatgcc caggattttc ttggctttcc tttctcg 37

<210> 195
<211> 32
<212> DNA
<213> Homo sapiens

<400> 195
agggaacgga aggcaaaacg catcctgggg ct 32

<210> 196
<211> 32
<212> DNA
<213> Homo sapiens

<400> 196
agccccagga tgcgttttgc cttccgttcc ct 32

<210> 197
<211> 38
<212> DNA
<213> Homo sapiens

<400> 197
caagagaacg gaaagcaaag actaccctgg gattaatc 38

<210> 198
<211> 38
<212> DNA
<213> Homo sapiens

<400> 198
gattaatccc agggtagtct ttgctttccg ttctcttg 38

<210> 199
<211> 34
<212> DNA
<213> Homo sapiens

<400> 199
aacgaacaga gagccaaaaa ggtcctaggg attg 34

<210> 200
<211> 34
<212> DNA
<213> Homo sapiens

<400> 200
caatccctag gacctttttg gctctctgtt cggt 34

<210> 201
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 201
 ggacagagac caaagcaaag aagaccctgt gcatc 35

<210> 202
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 202
 gatgcacagg gtcttctttg ctttggtctc tgtcc 35

<210> 203
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 203
 ggacagagac caaagcaaag aagaccctgt gcatc 35

<210> 204
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 204
 gatgcacagg gtcttctttg ctttggtctc tgtcc 35

<210> 205
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 205
 ggacagagac caaagcaaag aagaccctgt gcatc 35

<210> 206
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 206
 gatgcacagg gtcttctttg ctttggtctc tgtcc 35

<210> 207
 <211> 35
 <212> DNA

[illegible]

```
<210> 208
<211> 35
<212> DNA
<213> Homo sapiens
```

```
<210> 209
<211> 35
<212> DNA
<213> Homo sapiens
```

```
<210> 210
<211> 35
<212> DNA
<213> Homo sapiens
```

```
<210> 211
<211> 33
<212> DNA
<213> Homo sapiens
```

```
<210> 212
<211> 33
<212> DNA
<213> Homo sapiens
```

```
<210> 213
<211> 37
<212> DNA
<213> Homo sapiens
```

34

ctgaaggcca agcttacgct gggcatcctg ctgggca 37

<210> 214
<211> 38
<212> DNA
<213> Homo sapiens

<400> 214
atgccagcg taagcttggc cttcagggcc ttcctgct 38

<210> 215
<211> 35
<212> DNA
<213> Homo sapiens

<400> 215
gaacagaaag caaagaccac cctggggatc atcgt 35

<210> 216
<211> 35
<212> DNA
<213> Homo sapiens

<400> 216
cccagggtgg tctttgcttt ctgttctcgc ttaaa 35

<210> 217
<211> 37
<212> DNA
<213> Homo sapiens

<400> 217
gccaagatcc gcacgaagaa gatgactttt gtgatcg 37

<210> 218
<211> 37
<212> DNA
<213> Homo sapiens

<400> 218
cgatcacaaa agtcatcttc ttcgtgcgga tcttggc 37

<210> 219
<211> 37
<212> DNA
<213> Homo sapiens

<400> 219
ggccaagatc cgaacaaaga agatgacctt tgtcatc 37

<210> 220
 <211> 38
 <212> DNA
 <213> Homo sapiens

<400> 220
 cgatgacaaa ggtcatcttc tttgttcgga tcttggcc 38

<210> 221
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 221
 gctgtggcca agactaagag gatgacgcta gtg 33

<210> 222
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 222
 cactagcgtc atcctcttag tcttgccac agc 33

<210> 223
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 223
 cgaaagagaa ttaaaagaac ggtattggtg ttg 33

<210> 224
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 224
 aataccgttc ttttaattct ctttcgggat tc 32

<210> 225
 <211> 37
 <212> DNA
 <213> Homo sapiens

<400> 225
 gccgcaagga tagcaagacc aaagcgctga tcttcac 37

<210> 226
 <211> 37
 <212> DNA

<213> Homo sapiens

<400> 226

gtgaggatca gcgctttggc cttgctatcc ttgcggc

37

<210> 227

<211> 31

<212> DNA

<213> Homo sapiens

<400> 227

cggagaggag ggccaagggtg ctagtcctgg t

31

<210> 228

<211> 31

<212> DNA

<213> Homo sapiens

<400> 228

accaggacta gcaccttggc cctcctctcc g

31

<210> 229

<211> 40

<212> DNA

<213> Homo sapiens

<400> 229

cgccaagtct cagagcaaaa ccaagcgagt ggccgtggtg

40

<210> 230

<211> 40

<212> DNA

<213> Homo sapiens

<400> 230

caccacggcc actcgcttgg ttttgctctg agacttggcg

40

<210> 231

<211> 33

<212> DNA

<213> Homo sapiens

<400> 231

cgggtccacca agacaaagaa ggtggtggtg gca

33

<210> 232

<211> 33

<212> DNA

<213> Homo sapiens

<400> 232

tgccaccacc accttctttg tcttgggtgga ccg 33

<210> 233
<211> 37
<212> DNA
<213> Homo sapiens

<400> 233
cgcatggaca ttaggttaaa gaagaccctg gtcctga 37

<210> 234
<211> 37
<212> DNA
<213> Homo sapiens

<400> 234
tcaggaccag ggtcttcttt aacctaagt ccatgcg 37

<210> 235
<211> 38
<212> DNA
<213> Homo sapiens

<400> 235
ggctggatgt gaggttgaag aagaccctag ggctagtg 38

<210> 236
<211> 38
<212> DNA
<213> Homo sapiens

<400> 236
cactagccct aggttcttct tcaacctcac atccagcc 38

<210> 237
<211> 34
<212> DNA
<213> Homo sapiens

<400> 237
gaagaggcat agggcaaaga gagtcatctt cacc 34

<210> 238
<211> 34
<212> DNA
<213> Homo sapiens

<400> 238
ggtgaagatg actctctttg ccctatgcct cttc 34

<213> Homo sapiens

<400> 245

tccaagcaca aagccaaaaa agtgaccatc actgtcc

37

<210> 246

<211> 37

<212> DNA

<213> Homo sapiens

<400> 246

ggacagtgat ggtcactttt ttggctttgt gcttgga

37

<210> 247

<211> 32

<212> DNA

<213> Homo sapiens

<400> 247

gaaggctgtg aaagcccctc tggctgtgct gc

32

<210> 248

<211> 32

<212> DNA

<213> Homo sapiens

<400> 248

gcagcagcac cagaggggct ttcacagcct tc

32

<210> 249

<211> 36

<212> DNA

<213> Homo sapiens

<400> 249

agaagcgcaa ggccaagaag accacagtca tcctca

36

<210> 250

<211> 36

<212> DNA

<213> Homo sapiens

<400> 250

tgaggatgac tgtggtcttc ttggccttgc gcttct

36

<210> 251

<211> 28

<212> DNA

<213> Homo sapiens

<400> 251

gagaaactaa agtcaagaag actctgtg 28

<210> 252
<211> 31
<212> DNA
<213> Homo sapiens

<400> 252
ctccttcggt cctcctatcg ttgtcagaag t 31

<210> 253
<211> 27
<212> DNA
<213> Homo sapiens

<400> 253
gagaagaaag ccaatcagat gctcgcc 27

<210> 254
<211> 27
<212> DNA
<213> Homo sapiens

<400> 254
ggcgagcatc tgagtggctt tcttctc 27

<210> 255
<211> 27
<212> DNA
<213> Homo sapiens

<400> 255
gagaagaagg caaaacaaat ggtggcc 27

<210> 256
<211> 27
<212> DNA
<213> Homo sapiens

<400> 256
ggccaccatt tgttttgcct tcttctc 27

<210> 257
<211> 33
<212> DNA
<213> Homo sapiens

<400> 257
aagaaggaga ccaaagttaa aaagaccctg tcg 33

57592860
40070

<210> 258
<211> 33
<212> DNA
<213> Homo sapiens

<400> 258
cgacagggtc tttttaactt tggctctcctt ctt 33

<210> 259
<211> 42
<212> DNA
<213> Homo sapiens

<400> 259
cagcgtcgag aagtgaaaaa aacagttttc tgcttggttg ta 42

<210> 260
<211> 42
<212> DNA
<213> Homo sapiens

<400> 260
tacaaccaag cagaaaactg tttttttcac ttctcgacgc tg 42

<210> 261
<211> 37
<212> DNA
<213> Homo sapiens

<400> 261
cagagacggg aagtgaagaa aaccgtcttt tgcctgg 37

<210> 262
<211> 37
<212> DNA
<213> Homo sapiens

<400> 262
ccaggcaaaa gacggttttc ttcacttccc gtctctg 37

<210> 263
<211> 32
<212> DNA
<213> Homo sapiens

<400> 263
aatccagcc gtcccaaacg ggtcctcact gc 32

<210> 264
<211> 32
<212> DNA

<213> Homo sapiens

<400> 264

gcagtgagga cccgtttggg acggctggat tt

32

<210> 265

<211> 32

<212> DNA

<213> Homo sapiens

<400> 265

aaatccagcc gtcccaaacg ggtcctcact gc

32

<210> 266

<211> 32

<212> DNA

<213> Homo sapiens

<400> 266

gcagtgagga cccgtttggg acggctggat tt

32

<210> 267

<211> 30

<212> DNA

<213> Homo sapiens

<400> 267

ccaagaaaaa gactaaacag acagttctgg

30

<210> 268

<211> 30

<212> DNA

<213> Homo sapiens

<400> 268

gccaagcgca aggtgaaacg catgatcctc

30

<210> 269

<211> 31

<212> DNA

<213> Homo sapiens

<400> 269

gaggatcatg cgtttcacct tgcgcttggc g

31

<210> 270

<211> 31

<212> DNA

<213> Homo sapiens

<400> 270

<210> 277
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 277
 ccgggaaaag aaagtcaaga ggacaatcct ggct 34

<210> 278
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 278
 agccaagatt gtcctcttga ctttcttttc ccgg 34

<210> 279
 <211> 37
 <212> DNA
 <213> Homo sapiens

<400> 279
 ggtcaaggag aagaaagcga aacagaccct cagtgcg 37

<210> 280
 <211> 37
 <212> DNA
 <213> Homo sapiens

<400> 280
 cgcaactgagg gtctgtttcg ctttcttttc cttgacc 37

<210> 281
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 281
 gggagcgcaa agtgaaacga acgatctttg cc 32

<210> 282
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 282
 ggcaaagatc gttcgtttca ctttgcgctc cc 32

<210> 283
 <211> 36
 <212> DNA

<213> Homo sapiens

<400> 283

gtcaaagaga ggaaagcaaa acagacactg agtgcc

36

<210> 284

<211> 36

<212> DNA

<213> Homo sapiens

<400> 284

ggcactcagt gtctgttttg ctttcctctc tttgac

36

<210> 285

<211> 37

<212> DNA

<213> Homo sapiens

<400> 285

gcaacactca tgtatgaagg ggaaagtcac catcacc

37

<210> 286

<211> 33

<212> DNA

<213> Homo sapiens

<400> 286

gccaagcgca aggtgaagaa aatgatgatt gtc

33

<210> 287

<211> 33

<212> DNA

<213> Homo sapiens

<400> 287

gacaatcatc attttcttca ccttgcgctt ggc

33

<210> 288

<211> 32

<212> DNA

<213> Homo sapiens

<400> 288

gccaagaaga agtttaagaa gaccatggtg ct

32

<210> 289

<211> 32

<212> DNA

<213> Homo sapiens

<400> 289

<210> 296
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 296
 gccctgcggc acggcaagcg cgtcctacgt gc 32

 <210> 297
 <211> 32
 <212> DNA
 <213> Homo sapiens

 <400> 297
 gcacgtagga cgcgcttgcc gtgccgcagg gc 32

 <210> 298
 <211> 33
 <212> DNA
 <213> Homo sapiens

 <400> 298
 agcctccagc gcagcaagca ggttctcaga gcc 33

 <210> 299
 <211> 33
 <212> DNA
 <213> Homo sapiens

 <400> 299
 ggctctgaga acctgcttgc tgcgctggag gct 33

 <210> 300
 <211> 31
 <212> DNA
 <213> Homo sapiens

 <400> 300
 gcctgcggcg catcaagcgc atggtgctgg t 31

 <210> 301
 <211> 31
 <212> DNA
 <213> Homo sapiens

 <400> 301
 accagcacca tgcgcttgat gcgccgcagg c 31

 <210> 302
 <211> 32
 <212> DNA

<213> Homo sapiens

<400> 302

acctgcggcg catcaagcgg ctggtgctgg tg

32

<210> 303

<211> 32

<212> DNA

<213> Homo sapiens

<400> 303

caccagcacc agccgcttga tgcgccgcag gt

32

<210> 304

<211> 32

<212> DNA

<213> Homo sapiens

<400> 304

acctgcgtag gatcaagaga ctggtcctgg tg

32

<210> 305

<211> 32

<212> DNA

<213> Homo sapiens

<400> 305

caccaggacc agtctcttga tcctacgcag gt

32

<210> 306

<211> 36

<212> DNA

<213> Homo sapiens

<400> 306

gggaatcttc gaaggatcaa gaggatggtg ctggtg

36

<210> 307

<211> 35

<212> DNA

<213> Homo sapiens

<400> 307

caccagcacc atcctcttga tccttcgaag attcc

35

<210> 308

<211> 27

<212> DNA

<213> Homo sapiens

<400> 308

cgagactgcg tacctgatga ttagttc	27
<p><210> 309 <211> 36 <212> DNA <213> Homo sapiens</p>	
<p><400> 309 gggaatcttc gaaggatcaa gaggatggtg ctggtg</p>	36
<p><210> 310 <211> 28 <212> DNA <213> Homo sapiens</p>	
<p><400> 310 cggaggaaga caaaaaagat gctgatgg</p>	28
<p><210> 311 <211> 28 <212> DNA <213> Homo sapiens</p>	
<p><400> 311 ccatcagcat cttttttgtc ttctccg</p>	28
<p><210> 312 <211> 29 <212> DNA <213> Homo sapiens</p>	
<p><400> 312 ccagaaggaa aacaaaacgg atgttgatg</p>	29
<p><210> 313 <211> 31 <212> DNA <213> Homo sapiens</p>	
<p><400> 313 cgactggccc ggtccccct gctgctcatc c</p>	31
<p><210> 314 <211> 31 <212> DNA <213> Homo sapiens</p>	
<p><400> 314 ggatgagcag caggggggac cgggccagtc g</p>	31

<210> 315
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 315
 gtcaagcgcc gggcgaagtg gatggtgtgc ac 32

<210> 316
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 316
 gtgcacacca tccacttcgc ccggcgcttg ac 32

<210> 317
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 317
 cacgacgtgg agatgaaggg ccagcttgtc gg 32

<210> 318
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 318
 ccgacaagct ggcccttcac ctccacgtcg tg 32

<210> 319
 <211> 36
 <212> DNA
 <213> Homo sapiens

<400> 319
 gaggagacgg accacaagat tctcctggct atcatg 36

<210> 320
 <211> 36
 <212> DNA
 <213> Homo sapiens

<400> 320
 catgatagcc aggagaatct tgtggtccgt ctcttc 36

<210> 321
 <211> 36
 <212> DNA

Figure 1 consists of 12 sub-graphs, labeled (a) through (l), each showing a time course of a different physiological or behavioral parameter over a 10-minute period. The y-axis for all graphs ranges from 0 to 100. The x-axis for all graphs ranges from 0 to 10 minutes. The graphs show a general decrease in values during the intervention period, with some parameters showing a sharp drop at the start of the intervention.

- (a) Heart rate (b/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (b) Blood pressure (mmHg): Shows a sharp drop from approximately 120 to 80 within the first minute, then remains relatively stable.
- (c) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (d) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (e) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (f) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (g) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (h) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (i) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (j) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (k) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.
- (l) Blood flow (ml/min): Shows a sharp drop from approximately 100 to 60 within the first minute, then remains relatively stable.

gccgagatcc agatgaagat cttactcatt gccacc

<210> 322

<212> DNA

<213> Homo sapiens

ggtggcaatg agtaagatct tcatctggat ctcggc

36

<211> 33

<212> DNA

<213> Homo sapiens

ggaagctgct caaatccccg ctggtgctca tgc

33

<211> 33

<212> DNA

<213> Homo sapiens

gcatgagcac cagcgggggat ttgagcagct tcc

33

<211> 33

<212> DNA

<213> Homo sapiens

ggaaactggc caaatcgcca ctggtcctgg tcc

33

<211> 33

<212> DNA

<213> Homo sapiens

ggaccaggac cagtggcgat ttggccagtt tcc

33

<211> 31

<212> DNA

<213> Homo sapiens

<400> 327

cgctggcca ggtccctct cctgctgatc c	31
<p><210> 328 <211> 31 <212> DNA <213> Homo sapiens</p>	
<p><400> 328 ggatcagcag gagaggggac ctggccaggc g</p>	31
<p><210> 329 <211> 29 <212> DNA <213> Homo sapiens</p>	
<p><400> 329 cgagcgcaag atcaaattaa tggatgatg</p>	29
<p><210> 330 <211> 32 <212> DNA <213> Homo sapiens</p>	
<p><400> 330 agaagaaggc caaacgaatg gtgtccatcg tg</p>	32
<p><210> 331 <211> 32 <212> DNA <213> Homo sapiens</p>	
<p><400> 331 ggacaccatt cgtttgacct tcttctcaga ct</p>	32
<p><210> 332 <211> 30 <212> DNA <213> Homo sapiens</p>	
<p><400> 332 gaacgcaggg tcaagcgcac ggtggtggcc</p>	30
<p><210> 333 <211> 29 <212> DNA <213> Homo sapiens</p>	
<p><400> 333 cggagaagaa aatcaaaaagg ctggtgctg</p>	29

<210> 334
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 334
 tcggagcgaa aggtgaagcg catggtgttg gtggt 35

<210> 335
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 335
 accatgcgct tcacctttcg ctccgagcgc cgccg 35

<210> 336
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 336
 aggctagcca ggtccccact cctgctgata c 31

<210> 337
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 337
 ggatcagcag gagtggggac ctggctagcc t 31

<210> 338
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 338
 aggctggcca agtccccgct cctgcttata c 31

<210> 339
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 339
 ggataagcag gagcggggac ttggccagcc t 31

<210> 340
 <211> 34
 <212> DNA

<213> Homo sapiens

<400> 340

gcaggctgtc gacctgtcc tcaccacat ggtc

34

<210> 341

<211> 37

<212> DNA

<213> Homo sapiens

<400> 341

aatgggtca cagcctgtta gatctgcatt gggccac

37

<210> 342

<211> 28

<212> DNA

<213> Homo sapiens

<400> 342

taacaggctg tgagccatt cctgtgcg

28

<210> 343

<211> 34

<212> DNA

<213> Homo sapiens

<400> 343

ttagaattcg cattccctgc ccctgccttc tttc

34

<210> 344

<211> 33

<212> DNA

<213> Homo sapiens

<400> 344

tgcgaattct aatggcaagt ctgtgtcatg gtc

33

<210> 345

<211> 34

<212> DNA

<213> Homo sapiens

<400> 345

tgcgatcct cttcggaaga tggtgaggaa agtg

34

<210> 346

<211> 2634

<212> DNA

<213> Homo sapiens

<400> 346

```

atgggtcgggc tccttttgtt ttttttccca gcgatctttt tggaggtgtc ccttctcccc 60
agaagccccg gcaggaaagt gttgctggca ggagcgctgt ctcagcgctc ggtggccaga 120
atggacggag atgtcatcat tggagccctc ttctcagtc atcaccagcc tccggccgag 180
aaagtgcccg agaggaagtg tggggagatc agggagcagt atggcatcca gaggggtggag 240
gccatgttcc acacgttggg taagatcaac gcggaccggt tctctctgcc caacatcacc 300
ctgggcagtg agatccggga ctctgtctgg cactcttcog tggctctgga acagagcatt 360
gagttcatta gggactctct gatttccatt cgagatgaga aggatgggat caaccgggtg 420
ctgcctgacg gccagtcctt cccccaggc aggactaaga agcccattgc gggagtgatc 480
ggtcccggct ccagctctgt agccattcaa gtgcagaacc tgctccagct cttcgacatc 540
ccccagatcg cttattcagc cacaagcatc gacctgagtg acaaaacttt gtacaaatac 600
ttcttgaggg ttgtcccttc tgacactttg caggcaaggg ccatgcttga catagtcaaa 660
cgttacaatt ggacctatgt ctctgcagtc cacacggaag ggaattatgg ggagagcgga 720
atggacgctt tcaaagagct ggctgccag gaaggcctct gtatcgccca ttctgacaaa 780
atctacagca acgctgggga gaagagcttt gaccgactct tgcgcaaact ccgagagagg 840
cttcccaagg cttagattgg ggtctgcttc tgtgaaggca tgacagtgcg aggactcctg 900
agcgccatgc ggcgcccttg cgtcgtgggc gaggctctcac tcattggaag tgatggatgg 960
gcagacagag atgaagtcac tgaaggttat gagggtggaag ccaacggggg aatcacgata 1020
aagctgcagt ctccagaggt caggtcattt gatgattatt tctgaaaact gaggctggac 1080
actaacagca ggaatccctg gttccctgag ttctggcaac atcggttcca gtgcgcctt 1140
ccaggacacc ttctggaaaa tcccaacttt aaacgaatct gcacaggcaa tgaaagctta 1200
gaagaaaact atgtccagga cagtaagatg gggtttgtca tcaatgccat ctatgccatg 1260
gcacatgggc tgcagaacat gcaccatgcc ctctgccctg gccacgtggg cctctgcgat 1320
gccatgaagc ccatcgacgg cagcaagctg ctggacttcc tcatcaagtc ctcatcatt 1380
ggagtatctg gagaggaggt gtggtttgat gagaaaggag acgctcctgg aaggatgat 1440
atcatgaatc tgcagtacac tgaagcta atcgctatgact atgtgcacgt tggaacctgg 1500
catgaaggag tgctgaacat tgatgattac aaaatccaga tgaacaagag tggagtgggtg 1560
cggctctgtg gcagtgcacc ttgcttaaag ggccagatta aggttatacg gaaaggagaa 1620
gtgagctgct gctggatttg cacggcctgc aaagagaatg aatatgtgca agatgagttc 1680
acctgcaaag cttgtgactt gggatgggtg cccaatgcag atctaacagg ctgtgagccc 1740
attcctgtgc gctatcttga gtggagcaac atcgaatcca ttatagccat cgccttttca 1800
tgcctgggaa tccttggttac cttgtttgtc accctaactt ttgtactgta ccgggacaca 1860
ccagtgggtca aatcctccag tcgggagctc tgctacatca tctagctgg catcttcctt 1920
ggttatgtgt gccattcac tctcattgcc aaacctacta ccaoctoctg ctacctccag 1980
cgctcttggt ttggcctctc ctctgcgatg tgctactctg ctttagtgac taaaaccaat 2040
cgtattgcac gcatcctggc tggcagcaag aagaagatct gcaccggaa gccaggttc 2100
atgagtgcct gggctcaggt gatcattgcc tcaattctga ttagtggtgca actaaccctg 2160
gtggtaaccc tgatcatcat ggaacccct atgccattc tgtcctacc aagtatcaag 2220
gaagtctacc ttatctgcaa taccagcaac ctgggtgtgg tggccctttt gggctacaat 2280
ggactcctca tcatgagctg tacctactat gccttcaaga cccgcaacgt gcccgccaac 2340
ttcaacgagg ccaaatatat cgcgttcacc atgtacacca cctgtatcat ctggctagct 2400
tttgtgccc tttacttttg gagcaactac aagatcatca caacttgctt tgcagtgagt 2460
ctcagtgtaa cagtggctct ggggtgcatg ttactccca agatgtacat cattattgcc 2520
aagcctgaga ggaatgtccg cagtgccttc accacctctg atgttgctcg catgcatgtt 2580
ggcgatggca agctgcctg ccgctccaac actttcctca acatcttcog aaga 2634

```

<210> 347
 <211> 878
 <212> PRT
 <213> Homo sapiens

<400> 347
 Met Val Gly Leu Leu Leu Phe Phe Phe Pro Ala Ile Phe Leu Glu Val
 1 5 10 15
 Ser Leu Leu Pro Arg Ser Pro Gly Arg Lys Val Leu Leu Ala Gly Ala
 20 25 30

Ser	Ser	Gln	Arg	Ser	Val	Ala	Arg	Met	Asp	Gly	Asp	Val	Ile	Ile	Gly	
		35					40					45				
Ala	Leu	Phe	Ser	Val	His	His	Gln	Pro	Pro	Ala	Glu	Lys	Val	Pro	Glu	
	50					55					60					
Arg	Lys	Cys	Gly	Glu	Ile	Arg	Glu	Gln	Tyr	Gly	Ile	Gln	Arg	Val	Glu	
65					70					75					80	
Ala	Met	Phe	His	Thr	Leu	Asp	Lys	Ile	Asn	Ala	Asp	Pro	Val	Leu	Leu	
				85					90					95		
Pro	Asn	Ile	Thr	Leu	Gly	Ser	Glu	Ile	Arg	Asp	Ser	Cys	Trp	His	Ser	
			100					105					110			
Ser	Val	Ala	Leu	Glu	Gln	Ser	Ile	Glu	Phe	Ile	Arg	Asp	Ser	Leu	Ile	
	115						120					125				
Ser	Ile	Arg	Asp	Glu	Lys	Asp	Gly	Ile	Asn	Arg	Cys	Leu	Pro	Asp	Gly	
	130					135					140					
Gln	Ser	Leu	Pro	Pro	Gly	Arg	Thr	Lys	Lys	Pro	Ile	Ala	Gly	Val	Ile	
145					150					155					160	
Gly	Pro	Gly	Ser	Ser	Ser	Val	Ala	Ile	Gln	Val	Gln	Asn	Leu	Leu	Gln	
				165					170					175		
Leu	Phe	Asp	Ile	Pro	Gln	Ile	Ala	Tyr	Ser	Ala	Thr	Ser	Ile	Asp	Leu	
		180						185					190			
Ser	Asp	Lys	Thr	Leu	Tyr	Lys	Tyr	Phe	Leu	Arg	Val	Val	Pro	Ser	Asp	
		195					200					205				
Thr	Leu	Gln	Ala	Arg	Ala	Met	Leu	Asp	Ile	Val	Lys	Arg	Tyr	Asn	Trp	
	210					215					220					
Thr	Tyr	Val	Ser	Ala	Val	His	Thr	Glu	Gly	Asn	Tyr	Gly	Glu	Ser	Gly	
225					230					235					240	
Met	Asp	Ala	Phe	Lys	Glu	Leu	Ala	Ala	Gln	Glu	Gly	Leu	Cys	Ile	Ala	
				245					250					255		
His	Ser	Asp	Lys	Ile	Tyr	Ser	Asn	Ala	Gly	Glu	Lys	Ser	Phe	Asp	Arg	
		260						265					270			
Leu	Leu	Arg	Lys	Leu	Arg	Glu	Arg	Leu	Pro	Lys	Ala	Arg	Val	Val	Val	
		275					280					285				
Cys	Phe	Cys	Glu	Gly	Met	Thr	Val	Arg	Gly	Leu	Leu	Ser	Ala	Met	Arg	
	290					295					300					
Arg	Leu	Gly	Val	Val	Gly	Glu	Phe	Ser	Leu	Ile	Gly	Ser	Asp	Gly	Trp	
305					310					315					320	
Ala	Asp	Arg	Asp	Glu	Val	Ile	Glu	Gly	Tyr	Glu	Val	Glu	Ala	Asn	Gly	
				325					330					335		

Gly	Ile	Thr	Ile	Lys	Leu	Gln	Ser	Pro	Glu	Val	Arg	Ser	Phe	Asp	Asp	
			340					345					350			
Tyr	Phe	Leu	Lys	Leu	Arg	Leu	Asp	Thr	Asn	Thr	Arg	Asn	Pro	Trp	Phe	
		355					360					365				
Pro	Glu	Phe	Trp	Gln	His	Arg	Phe	Gln	Cys	Arg	Leu	Pro	Gly	His	Leu	
	370					375					380					
Leu	Glu	Asn	Pro	Asn	Phe	Lys	Arg	Ile	Cys	Thr	Gly	Asn	Glu	Ser	Leu	
385					390					395					400	
Glu	Glu	Asn	Tyr	Val	Gln	Asp	Ser	Lys	Met	Gly	Phe	Val	Ile	Asn	Ala	
				405					410					415		
Ile	Tyr	Ala	Met	Ala	His	Gly	Leu	Gln	Asn	Met	His	His	Ala	Leu	Cys	
			420					425					430			
Pro	Gly	His	Val	Gly	Leu	Cys	Asp	Ala	Met	Lys	Pro	Ile	Asp	Gly	Ser	
		435					440					445				
Lys	Leu	Leu	Asp	Phe	Leu	Ile	Lys	Ser	Ser	Phe	Ile	Gly	Val	Ser	Gly	
	450					455					460					
Glu	Glu	Val	Trp	Phe	Asp	Glu	Lys	Gly	Asp	Ala	Pro	Gly	Arg	Tyr	Asp	
465					470					475					480	
Ile	Met	Asn	Leu	Gln	Tyr	Thr	Glu	Ala	Asn	Arg	Tyr	Asp	Tyr	Val	His	
				485					490					495		
Val	Gly	Thr	Trp	His	Glu	Gly	Val	Leu	Asn	Ile	Asp	Asp	Tyr	Lys	Ile	
			500					505					510			
Gln	Met	Asn	Lys	Ser	Gly	Val	Val	Arg	Ser	Val	Cys	Ser	Glu	Pro	Cys	
		515					520					525				
Leu	Lys	Gly	Gln	Ile	Lys	Val	Ile	Arg	Lys	Gly	Glu	Val	Ser	Cys	Cys	
	530					535					540					
Trp	Ile	Cys	Thr	Ala	Cys	Lys	Glu	Asn	Glu	Tyr	Val	Gln	Asp	Glu	Phe	
545					550				555						560	
Thr	Cys	Lys	Ala	Cys	Asp	Leu	Gly	Trp	Trp	Pro	Asn	Ala	Asp	Leu	Thr	
				565					570					575		
Gly	Cys	Glu	Pro	Ile	Pro	Val	Arg	Tyr	Leu	Glu	Trp	Ser	Asn	Ile	Glu	
			580					585					590			
Ser	Ile	Ile	Ala	Ile	Ala	Phe	Ser	Cys	Leu	Gly	Ile	Leu	Val	Thr	Leu	
		595					600					605				
Phe	Val	Thr	Leu	Ile	Phe	Val	Leu	Tyr	Arg	Asp	Thr	Pro	Val	Val	Lys	
	610					615					620					
Ser	Ser	Ser	Arg	Glu	Leu	Cys	Tyr	Ile	Ile	Leu	Ala	Gly	Ile	Phe	Leu	
625					630					635					640	

<211> 31
 <212> DNA
 <213> Homo sapiens

<400> 349
 ctccttcggt cctcctatcg ttgtcagaag t

31

<210> 350
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 350
 atggacctgg aagcctcgct gctgcccact ggtcccaatg ccagcaacac ctctgatggc 60
 cccgataacc tcacttcggc aggatcacct cctgcacagg ggagcatctc ctacatcaac 120
 atcatcatgc cttcgggtgtt cggcaccatc tgccctcctgg gcatcatcgg gaactccacg 180
 gtcattcttcg cggtcgtgaa gaagtccaag ctgcaactgg gcaacaacgt ccccgacatc 240
 ttcatcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc cttcatgac 300
 caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
 gccatggatg ccaatagtca gttcaccagc acctacatcc tgaccgccat ggccattgac 420
 cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
 acctgggtga tctgcctcct gtgggccctc tccctcatca gcatcacccc tgtgtggctg 540
 tatgccagac tcatcccctt cccaggaggt gcagtgggct gcggcatacg cctgcccac 600
 ccagacactg acctctactg gttcacctct taccagtttt tccctggcctt tgccctgcct 660
 tttgtgggtca tcacagccgc atactgtagg atcctgcagc gcatgacgtc ctcatgtggc 720
 cccgcctccc agcgcagcat ccggtgcggg acaaagaggg tgaaacgcac agccatcgcc 780
 atctgtcttg tcttctttgt gtgctgggca ccctactatg tgctacagct gaccagttg 840
 tccatcagcc gccgcacct cacccttctc tacttataca atgcggccat cagcttgggc 900
 tatgccaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
 cgcttggtcc tggtcgggtgaa gcctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
 cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062

<210> 351
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 351
 Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1 5 10 15
 Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
 20 25 30
 Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
 35 40 45
 Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
 50 55 60
 Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
 65 70 75 80
 Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
 85 90 95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
100 105 110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
115 120 125

Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala
130 135 140

Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
145 150 155 160

Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr
165 170 175

Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val
180 185 190

Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe
195 200 205

Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile
210 215 220

Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala
225 230 235 240

Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Lys Arg
245 250 255

Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr
260 265 270

Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr
275 280 285

Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser
290 295 300

Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys
305 310 315 320

Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala
325 330 335

Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly
340 345 350

Thr

<210> 352
<211> 31
<212> DNA
<213> Homo sapiens

<400> 352
agaggggtgaa acgcagagcc atcgccatct g 31

<210> 353
<211> 31
<212> DNA
<213> Homo sapiens

<400> 353
cagatggcga tggctctgcg tttcaccctc t 31

<210> 354
<211> 1062
<212> DNA
<213> Homo sapiens

<400> 354
atggacctgg aagcctcgct gctgcccact ggtcccaatg ccagcaaacac ctctgatggc 60
cccgataacc tcacttcggc aggatcacct cctgcacagg ggagcatctc ctacatcaac 120
atcatcatgc cttcgggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
gtcatcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
ttcatcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc cttcatgatc 300
caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
gccatggatg ccaatagtca gttcaccagc acctacatcc tgaccgccat ggccattgac 420
cgctacctgg ccactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
acctgggtga tctgcctcct gtggggccctc tcttcatca gcatcacccc tgtgtggctg 540
tatgccagac tcatcccctt ccagggaggg gcagtgggct gcggcatacg cctgcccac 600
ccagacactg acctctactg gttcacctg taccagtttt tcttggcctt tgccctgcct 660
tttgtgggtca tcacagccgc atacgtgagg atcctgcagc gcatgacgtc ctcagtggcc 720
cccgctccc agcgcagcat ccggtgcggg acaaagaggg tgaaacgcca ggccatcgcc 780
atctgtctgg tcttctttgt gtgctgggca ccctactatg tgctacagct gacctagt 840
tccatcagcc gcccgacct cacccttgtc tacttataca atgcggccat cagcttgggc 900
tatgccaaca gctgcctcaa ccccttctgt tacatcgtgc tctgtgagac gttccgcaaa 960
cgcttgggtc tgtcgggtgaa gcctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062

<210> 355
<211> 353
<212> PRT
<213> Homo sapiens

<400> 355
Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
1 5 10 15
Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
20 25 30
Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
35 40 45
Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
50 55 60

<210> 356
 <211> 70
 <212> DNA
 <213> Homo sapiens

<400> 356
 gatcctgcag aaggtgaagt cctctggaat ccgagtgggc tcctctaaga ggaagaagtc 60
 tgagaagaag 70

<210> 357
 <211> 71
 <212> DNA
 <213> Homo sapiens

<400> 357
 gtgaccttct tctcagactt cttcctctta gaggagccca ctcggtattcc agaggacttc 60
 accttctgca g 71

<210> 358
 <211> 1349
 <212> DNA
 <213> Homo sapiens

<400> 358
 atggacctgg aagcctcgct gctgcccact ggtcccaatg ccagcaacac ctctgatggc 60
 cccgataacc tcaacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
 atcatcatgc cttcggtggt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
 gtcattcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
 ttcattcatca acctctcggt agtagatctc ctctttctcc tgggcatgcc ctccatgata 300
 caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
 gccatggatg ccaatagtca gttcaccagc acctacatcc tgaccgccat ggccattgac 420
 cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
 acctggtgta tctgctctct gtggggccctc tcttcatca gcatcacccc tgtgtggctg 540
 tatgccagac tcatccccct cccaggaggt gcagtgggct gcggcatacg cctgccaac 600
 ccagacactg acctctactg gttcacccctg taccagtttt tcctggcctt tgccctgcct 660
 tttgtggtca tcacagccgc atacgtgagg atcctgcaga aggtgaagtc ctctggaatc 720
 cgagtgggct cctctaagag gaagaagtct gagaagaagg tcacccgcac agccatcgcc 780
 atctgtctgg tcttctttgt gtgtgtggca cctactatg tgctacagct gacctcagttg 840
 tccatcagcc gcccgacct cacccttctc tacttataca atgcggccat cagcttgggc 900
 tatgccaaca gctgcctcaa ccccttctgt tacatcgtgc tctgtgagac gttccgcaaa 960
 cgcttggtcc tgtcgggtgaa gcctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
 cagacggctg acgaggagag gacagaaaagc aaaggcacct gatacttccc ctgccaccct 1080
 gcacacctcc aagtcagggc accacaacac gccaccgga gagatgctga gaaaaacca 1140
 agaccgctcg ggaaatgcag gaaggccggg ttgtgagggg ttgttgcaat gaaataaata 1200
 cattccatgg gctcacacgt tgcctggggag gcctggagtc aggtttgggg ttttcagata 1260
 tcagaaatcc cttgggggag caggatgaga cctttggata gaacagaagc tgagcaagag 1320
 aacatgttgg tttggataac cggttgcac 1349

<210> 359
 <211> 446
 <212> PRT
 <213> Homo sapiens

<400> 359

```

Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1          5          10          15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
 20          25          30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
 35          40          45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
 50          55          60

Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
 65          70          75          80

Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
 85          90          95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
100          105          110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
115          120          125

Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala
130          135          140

Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
145          150          155          160

Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr
165          170          175

Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val
180          185          190

Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe
195          200          205

Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile
210          215          220

Thr Ala Ala Tyr Val Arg Ile Leu Gln Lys Val Lys Ser Ser Gly Ile
225          230          235          240

Arg Val Gly Ser Ser Lys Arg Lys Lys Ser Glu Lys Lys Val Thr Arg
245          250          255

Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr
260          265          270

Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr
275          280          285

Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser

```

290	295	300
Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys		
305	310	315 320
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala		
	325	330 335
Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly		
	340	345 350
Thr Tyr Phe Pro Cys His Pro Ala His Leu Gln Val Arg Ala Pro Gln		
	355	360 365
His Ala Thr Gly Arg Asp Ala Glu Lys Asn Pro Arg Pro Leu Gly Lys		
	370	375 380
Cys Arg Lys Ala Gly Leu Gly Val Val Ala Met Lys Ile His Ser Met		
385	390	395 400
Gly Ser His Val Ala Gly Glu Ala Trp Ser Gln Val Trp Gly Phe Gln		
	405	410 415
Ile Ser Glu Ile Pro Trp Gly Ser Arg Met Arg Pro Leu Asp Arg Thr		
	420	425 430
Glu Ala Glu Gln Glu Asn Met Leu Val Trp Ile Thr Gly Cys		
	435	440 445

<210> 360
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 360
 ggctatgccacacagctacctaaccctttgtg 33

<210> 361
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 361
 cacaaggggttgaggtagctgttgccatagcc 33

<210> 362
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 362
 atggacctgg aagcctcgct gctgccact ggtcccaatg ccagcaacac ctctgatggc 60
 cccgataacc tcacttcggc aggatcacct cctcgccacgg ggagcatctc ctacatcaac 120
 atcatcatgc ctctgggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180

```

gtcatcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
ttcatcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc ctcatgac 300
caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
gccatggatg ccaatagtca gttcaccagc acctacatcc tgaccgccat ggccattgac 420
cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
accctggtga tctgcctcct gtgggccctc tccttcatca gcatcacccc tgtgtggctg 540
tatgccagac tcatcccctt cccaggaggt gcagtgggct gcggcatacg cctgcccac 600
ccagacactg acctctactg gttcaccctg taccagtttt tcctggcctt tgccctgctt 660
tttgtgggtca tcacagccgc atacgtgagg atcctgcagc gcatgacgtc ctcagtggcc 720
ccgcctccc agcgcagcat ccggctgcgg acaaagaggg tgacccgcac agccatcgcc 780
atctgtctgg tcttctttgt gtgctgggca ccctactatg tgctacagct gacccagttg 840
tccatcagcc gcccgaccct cacccttgtc tacttataca atgcggccat cagcttgggc 900
tatgccaaca gctacctcaa ccccttgggtg tacatcgtgc tctgtgagac gttccgcaaa 960
cgcttgggtc tgtcgggtgaa gcctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062

```

<210> 363

<211> 353

<212> PRT

<213> Homo sapiens

<400> 363

```

Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1              5              10              15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
      20              25              30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
      35              40              45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
      50              55              60

Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
      65              70              75              80

Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
      85              90              95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
      100             105             110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
      115             120             125

Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala
      130             135             140

Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
      145             150             155             160

Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr
      165             170             175

Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val

```

	180		185		190
Gly Cys Gly	Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe				
195		200		205	
Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile					
210		215		220	
Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala					
225		230		235	240
Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg					
	245		250		255
Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr					
	260		265		270
Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr					
	275		280		285
Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser					
	290		295		300
Tyr Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys					
305		310		315	320
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala					
	325		330		335
Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly					
	340		345		350
Thr					

<210> 364
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 364
 ttgtgtgctg ggcactctac tatgtgctac agc 33

<210> 365
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 365
 gctgtagcac atagtagagt gccagcaca caa 33

<210> 366
 <211> 1062
 <212> DNA

<213> Homo sapiens

<400> 366

```
atggacctgg aagcctcgct gctgccact ggtcccaatg ccagcaacac ctctgatggc 60
cccgataacc tcaacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
atcatcatgc cttcgggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
gtcatcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
ttcatcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc cttcatgac 300
caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
gccatggatg ccaatagtcg gttcaccagc acctacatcc tgaccgcat ggccattgac 420
cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
accctggtga tctgcctcct gtgggcccct tccttcatca gcatcacccc tgtgtggctg 540
tatgccagac tcatccctt cccaggaggt gcagtgggct gcggcatacg cctgcccac 600
ccagacactg acctctactg gttcaccttg taccagtttt tcctggcctt tgcctgcct 660
tttgtggtca tcacagcgcg atacgtgagg atcctgcagc gcatgacgtc ctcagtggcc 720
cccgctccc agcgcagcat ccggtgcgg acaaagagg tgaccgcac agccatcgcc 780
atctgtctgg tcttctttgt gtgtgtggca ctctactatg tgctacagct gaccagttg 840
tccatcagcc gccgcacct cacctttgtc tacttataca atgcggccat cagcttgggc 900
tatgccaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
cgcttgggtc tgtcgtgaa gctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062
```

<210> 367

<211> 353

<212> PRT

<213> Homo sapiens

<400> 367

```
Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1             5             10             15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
 20             25             30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
 35             40             45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
 50             55             60

Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
 65             70             75             80

Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
 85             90             95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
100            105            110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
115            120            125

Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala
130            135            140

Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
```

145		150		155		160
Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr						
	165			170		175
Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val						
	180			185		190
Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe						
	195			200		205
Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile						
	210			215		220
Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala						
	225			230		235
Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg						
	245			250		255
Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Leu Tyr						
	260			265		270
Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr						
	275			280		285
Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser						
	290			295		300
Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys						
	305			310		315
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala						
	325			330		335
Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly						
	340			345		350
Thr						

<210> 368
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 368
 ggtcttcttt gtgtgctgcg caccctacta tgtg

34

<210> 369
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 369

cacatagtag ggtgcgagc acacaaagaa gacc

34

<210> 370

<211> 1062

<212> DNA

<213> Homo sapiens

<400> 370

```
atggacctgg aagcctcgct gctgccact ggtcccaatg ccagcaacac ctctgatggc 60
cccgataacc tcaacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
atcatcatgc ctctgggtgtt cggcaccatc tgccctcctgg gcatcatcgg gaactccacg 180
gtcatcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
ttcatcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc ctcatgatc 300
caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
gcatggatg ccaatagtca gttcaccagc acctacatcc tgaccgccat ggccattgac 420
cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
accctggtga tctgcctcct gtgggcccctc tctttcatca gcatcacccc tgtgtggctg 540
tatgccagac tcatcccttt cccaggagggt gcagtgggct gcggcatacg cctgcccaac 600
ccagacactg acctctactg gttcaccctg taccagtttt tcttgccctt tgccctgcct 660
tttgtgtgca tcacagccgc atactgtagg atcctgcagc gcatgacgtc ctcatgtggc 720
cccgcctccc agcgcagcat ccggctgcgg acaaagaggg tgaccgcgac agccatcgcc 780
atctgtctgg tcttctttgt gtgctgcgca cctactatg tgctacagct gaccagttg 840
tccatcagcc gcccgaccct cactttgtc tacttataca atgcggccat cagcttggg 900
tatgccaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
cgcttggtcc tgtcggtgaa gcctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062
```

<210> 371

<211> 353

<212> PRT

<213> Homo sapiens

<400> 371

```
Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1             5             10             15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
 20             25             30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
 35             40             45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
 50             55             60

Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
 65             70             75             80

Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
 85             90             95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
100             105             110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
```

115	120	125
Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala		
130	135	140
Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala		
145	150	155
Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr		
165	170	175
Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val		
180	185	190
Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe		
195	200	205
Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile		
210	215	220
Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala		
225	230	235
Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg		
245	250	255
Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Cys Ala Pro Tyr		
260	265	270
Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr		
275	280	285
Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser		
290	295	300
Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys		
305	310	315
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala		
325	330	335
Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly		
340	345	350
Thr		

<210> 372
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 372
 ggtcttcttt gtgtgcttcg caccctacta tgtg

<210> 373
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 373
 cacatagtag ggtgcgaagc acacaaagaa gacc

34

<210> 374
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 374
 atggacctgg aagcctcgct gctgcccact ggtcccaatg ccagcaacac ctctgatggc 60
 cccgataacc tcacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
 atcatcatgc ctctcggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
 gtcattcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
 ttcatcatca acctctcggt agtagatctc ctctttctcc tgggcatgcc cttcatgatc 300
 caccagctca tgggcaatgg ggtgtggcac ttitggggaga ccatgtgcac cctcatcacg 360
 gccatggatg ccaatagtca gtccaccagc acctacatcc tgaccgccat ggccattgac 420
 cgctacctgg cactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
 accctggtga tctgcctcct gtggggccctc tcttcatca gcatcacccc tgtgtggctg 540
 tatgccagac tcatccctt cccaggaggt gcagtgggct gcggcatacg cctgcccac 600
 ccagacactg acctctactg gtccaccctg taccagtttt tcttggcctt tgccctgcct 660
 tttgtggtca tcacagccgc atacgtgagg atcctgcagc gcatgacgtc ctcatgtggc 720
 cccgcctccc agcgcagcat ccggtgcgg acaaagaggg tgaccgcac agccatcgcc 780
 atctgtctgg tcttctttgt gtgcttcgca cctactatg tgctacagct gaccagttg 840
 tccatcagcc gccgcaccct cactttgtc tacttataca atgcggccat cagcttgggc 900
 tatgccaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
 cgcttggtcc tgtcgtgaa gcctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
 cagacggctg acgaggagag gacagaaaagc aaaggcacct ga 1062

<210> 375
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 375
 Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1 5 10 15
 Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
 20 25 30
 Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
 35 40 45
 Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
 50 55 60
 Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
 65 70 75 80
 Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met

85										90					95															
Pro	Phe	Met	Ile	His	Gln	Leu	Met	Gly	Asn	Gly	Val	Trp	His	Phe	Gly															
			100					105						110																
Glu	Thr	Met	Cys	Thr	Leu	Ile	Thr	Ala	Met	Asp	Ala	Asn	Ser	Gln	Phe															
		115					120					125																		
Thr	Ser	Thr	Tyr	Ile	Leu	Thr	Ala	Met	Ala	Ile	Asp	Arg	Tyr	Leu	Ala															
		130					135				140																			
Thr	Val	His	Pro	Ile	Ser	Ser	Thr	Lys	Phe	Arg	Lys	Pro	Ser	Val	Ala															
		145				150				155					160															
Thr	Leu	Val	Ile	Cys	Leu	Leu	Trp	Ala	Leu	Ser	Phe	Ile	Ser	Ile	Thr															
			165						170						175															
Pro	Val	Trp	Leu	Tyr	Ala	Arg	Leu	Ile	Pro	Phe	Pro	Gly	Gly	Ala	Val															
			180					185					190																	
Gly	Cys	Gly	Ile	Arg	Leu	Pro	Asn	Pro	Asp	Thr	Asp	Leu	Tyr	Trp	Phe															
		195					200					205																		
Thr	Leu	Tyr	Gln	Phe	Phe	Leu	Ala	Phe	Ala	Leu	Pro	Phe	Val	Val	Ile															
		210					215				220																			
Thr	Ala	Ala	Tyr	Val	Arg	Ile	Leu	Gln	Arg	Met	Thr	Ser	Ser	Val	Ala															
		225				230				235					240															
Pro	Ala	Ser	Gln	Arg	Ser	Ile	Arg	Leu	Arg	Thr	Lys	Arg	Val	Thr	Arg															
				245					250					255																
Thr	Ala	Ile	Ala	Ile	Cys	Leu	Val	Phe	Phe	Val	Cys	Phe	Ala	Pro	Tyr															
			260					265					270																	
Tyr	Val	Leu	Gln	Leu	Thr	Gln	Leu	Ser	Ile	Ser	Arg	Pro	Thr	Leu	Thr															
		275					280					285																		
Phe	Val	Tyr	Leu	Tyr	Asn	Ala	Ala	Ile	Ser	Leu	Gly	Tyr	Ala	Asn	Ser															
		290				295					300																			
Cys	Leu	Asn	Pro	Phe	Val	Tyr	Ile	Val	Leu	Cys	Glu	Thr	Phe	Arg	Lys															
		305				310				315					320															
Arg	Leu	Val	Leu	Ser	Val	Lys	Pro	Ala	Ala	Gln	Gly	Gln	Leu	Arg	Ala															
				325					330					335																
Val	Ser	Asn	Ala	Gln	Thr	Ala	Asp	Glu	Glu	Arg	Thr	Glu	Ser	Lys	Gly															
			340					345					350																	
Thr																														

<210> 376
 <211> 34
 <212> DNA

<213> Homo sapiens

<400> 376

ggtcttcttt gtgtgcttgg caccctacta tgtg

34

<210> 377

<211> 34

<212> DNA

<213> Homo sapiens

<400> 377

cacatagtag ggtgccaagc acacaaagaa gacc

34

<210> 378

<211> 1062

<212> DNA

<213> Homo sapiens

<400> 378

atggacctgg aagcctcgct gctgcccact ggtcccaatg ccagcaacac ctctgatggc 60
cccgataacc tcaacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
atcatcatgc cttcgggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
gtcatcttcg cggtcgtgaa gaagtocaag ctgcactggg gcaacaacgt ccccgacatc 240
ttcatcatca acctctcggt agtagatctc ctctttctcc tgggcatgcc cttcatgatc 300
caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
gccatggatg ccaatagtca gtaccaccgc acctacatcc tgaccgccat ggccattgac 420
cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
accctggtga tctgcctcct gtgggcccct tccctcatca gcatcacccc tgtgtggctg 540
tatgccagac tcatcccctt cccaggagggt gcagtgggct gcggcatacg cctgcccac 600
ccagacactg acctctactg gttaacctg taccagtttt tccctggcctt tgccctgcct 660
tttgtgtgca tcacagccgc atacgtgagg atcctgcagc gcatgacgtc ctcagtggcc 720
cccgctccc agcgagcat ccggtgcgg acaaagaggg tgaccgcac agccatcgcc 780
atctgtctgg tcttctttgt gtgcttggca ccctactatg tgctacagct gaccagttg 840
tccatcagcc gcccgaccct cacctttgtc tacttataca atgcggccat cagcttgggc 900
tatgccaaac gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
cgcttgggtc tgtcgtgaa gctgcagcc caggggcagc ttcgcgctgt cagcaacgct 1020
cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062

<210> 379

<211> 353

<212> PRT

<213> Homo sapiens

<400> 379

Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
1 5 10 15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
20 25 30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
35 40 45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala

<210> 380
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 380
 gccatctgtc tggatcatctt tgtgtgctgg g 31

<210> 381
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 381
 cccagcacac aaagatgacc agacagatgg c 31

<210> 382
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 382
 atggacctgg aagcctcgt gctgcccact ggtcccactg ccagcaacac ctctgatggc 60
 cccgataacc tcaattcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
 atcatcatgc cttcgggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
 gtcattcttcg cggtcgtgaa gaagtccaag ctgcactggt gcaacaacgt ccccgacatc 240
 ttcattcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc ctctcatgatc 300
 caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
 gccatggatg ccaatagtca gttcaccagc acctacatcc tgaccgccat ggccattgac 420
 cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
 acctgtgtga tctgcctcct gtggggccctc tccctcatca gcatcaccac tgtgtggctg 540
 tatgccagac tcatccccctt cccaggagggt gcagtgggct gcggcatacg cctgcccac 600
 ccagacactg acctctactg gttcaccctg taccagtttt tccctggcctt tgccctgcct 660
 tttgtgggtca tcacagccgc atactgtagg atcctgcagc gcatgacgtc ctcatgtggc 720
 cccgcctccc agcgcagcat ccggtgcgg acaaagaggg tgaccgcgac agccatcgcc 780
 atctgtctgg tcatctttgt gtgctgggca ccctactatg tgctacagct gaccagttg 840
 tccatcagcc gcccgaccct caccctttgt tacttataca atgcggccat cagcttgggc 900
 tatgccaaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaa 960
 cgcttgggtc tgtcgggtgaa gcctgcagcc caggggcagc ttgcgctgt cagcaacgct 1020
 cagacggctg acgaggagag gacagaaaagc aaaggcacct ga 1062

<210> 383
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 383
 Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1 5 10 15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg

325

330

335

Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly
 340 345 350

Thr

<210> 384

<211> 36

<212> DNA

<213> Homo sapiens

<400> 384

cgcacagcca tcgcccagtg tctgggtcttc tttgtg

36

<210> 385

<211> 36

<212> DNA

<213> Homo sapiens

<400> 385

cacaaaagaag accagacact gggcgatggc tgtgcg

36

<210> 386

<211> 1062

<212> DNA

<213> Homo sapiens

<400> 386

atggacctgg aagcctcgct gctgcccaact ggtcccaatg ccagcaacac ctctgatggc 60
 cccgataaacc tcacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
 atcatcatgc cttcggtgtt cggcaccatc tgctctctgg gcatcatcgg gaactccacg 180
 gtcattctcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
 ttcattcatca acctctcggt agtagatctc ctctttctcc tgggcatgcc cttcatgatc 300
 caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
 gccatggatg ccaatagtca gttcaaccagc acctacatcc tgaccgccat ggccattgac 420
 cgctacctgg ccaactgtcca ccccatctct tccacgaagt tccggaagcc ctctgtggcc 480
 accctgggtga tctgctctct gtggggccctc tccttcatca gcatcaccac tgtgtggctg 540
 tatgccagac tcatccctct cccaggaggt gcagtgggct gcggcatacg cctgcccac 600
 ccagacactg acctctactg gttcaccctg taccagtttt tcctggcctt tgcctgcct 660
 tttgtggtca tcacagccgc atacgtgagg atcctgcagc gcatgacgtc ctcatgtggc 720
 cccgcctccc agcgagcat ccggtgcgag acaaagaggg tgaccgcgac agccatcgcc 780
 cagtgtctgg tcttctttgt gtgctgggca ccctactatg tgctacagct gaccagttg 840
 tccatcagcc gcccgacct cacctttgtc tacttataca atggggccat cagcttgggc 900
 tatgccaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
 cgcttgggtcc tgtcgggtgaa gcctgcagcc caggggcagc ttgcgctgt cagcaacgct 1020
 cagacggctg acgaggagag gacagaaagc aaaggcacct ga 1062

<210> 387

<211> 353

<212> PRT

<213> Homo sapiens

<400> 387

Met	Asp	Leu	Glu	Ala	Ser	Leu	Leu	Pro	Thr	Gly	Pro	Asn	Ala	Ser	Asn		
1				5					10					15			
Thr	Ser	Asp	Gly	Pro	Asp	Asn	Leu	Thr	Ser	Ala	Gly	Ser	Pro	Pro	Arg		
			20					25					30				
Thr	Gly	Ser	Ile	Ser	Tyr	Ile	Asn	Ile	Ile	Met	Pro	Ser	Val	Phe	Gly		
		35					40					45					
Thr	Ile	Cys	Leu	Leu	Gly	Ile	Ile	Gly	Asn	Ser	Thr	Val	Ile	Phe	Ala		
	50					55					60						
Val	Val	Lys	Lys	Ser	Lys	Leu	His	Trp	Cys	Asn	Asn	Val	Pro	Asp	Ile		
	65				70					75					80		
Phe	Ile	Ile	Asn	Leu	Ser	Val	Val	Asp	Leu	Leu	Phe	Leu	Leu	Gly	Met		
				85					90					95			
Pro	Phe	Met	Ile	His	Gln	Leu	Met	Gly	Asn	Gly	Val	Trp	His	Phe	Gly		
			100					105					110				
Glu	Thr	Met	Cys	Thr	Leu	Ile	Thr	Ala	Met	Asp	Ala	Asn	Ser	Gln	Phe		
		115					120					125					
Thr	Ser	Thr	Tyr	Ile	Leu	Thr	Ala	Met	Ala	Ile	Asp	Arg	Tyr	Leu	Ala		
	130					135					140						
Thr	Val	His	Pro	Ile	Ser	Ser	Thr	Lys	Phe	Arg	Lys	Pro	Ser	Val	Ala		
	145				150					155					160		
Thr	Leu	Val	Ile	Cys	Leu	Leu	Trp	Ala	Leu	Ser	Phe	Ile	Ser	Ile	Thr		
				165					170					175			
Pro	Val	Trp	Leu	Tyr	Ala	Arg	Leu	Ile	Pro	Phe	Pro	Gly	Gly	Ala	Val		
			180					185					190				
Gly	Cys	Gly	Ile	Arg	Leu	Pro	Asn	Pro	Asp	Thr	Asp	Leu	Tyr	Trp	Phe		
	195						200					205					
Thr	Leu	Tyr	Gln	Phe	Phe	Leu	Ala	Phe	Ala	Leu	Pro	Phe	Val	Val	Ile		
	210					215					220						
Thr	Ala	Ala	Tyr	Val	Arg	Ile	Leu	Gln	Arg	Met	Thr	Ser	Ser	Val	Ala		
	225				230					235					240		
Pro	Ala	Ser	Gln	Arg	Ser	Ile	Arg	Leu	Arg	Thr	Lys	Arg	Val	Thr	Arg		
				245					250					255			
Thr	Ala	Ile	Ala	Gln	Cys	Leu	Val	Phe	Phe	Val	Cys	Trp	Ala	Pro	Tyr		
			260					265					270				
Tyr	Val	Leu	Gln	Leu	Thr	Gln	Leu	Ser	Ile	Ser	Arg	Pro	Thr	Leu	Thr		
		275					280					285					
Phe	Val	Tyr	Leu	Tyr	Asn	Ala	Ala	Ile	Ser	Leu	Gly	Tyr	Ala	Asn	Ser		

290 295 300

Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys
 305 310 315 320

Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala
 325 330 335

Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly
 340 345 350

Thr

<210> 388
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 388
 accgccatgg ccattaacgc gtacctggcc act 33

<210> 389
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 389
 agtggccagg tagcgggttaa tggccatggc ggt 33

<210> 390
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 390
 atggacctgg aagcctcgct gctgcccact ggtcccaatg ccagcaaacac ctctgatggc 60
 cccgataacc tcacttcggc aggatcacct cctcgcacgg ggagcatctc ctacatcaac 120
 atcatcatgc cttcggtgtt cggcaccatc tgcctcctgg gcatcatcgg gaactccacg 180
 gtcattcttcg cggtcgtgaa gaagtccaag ctgcactggg gcaacaacgt ccccgacatc 240
 ttcatcatca acctctcggg agtagatctc ctctttctcc tgggcatgcc cttcatgatc 300
 caccagctca tgggcaatgg ggtgtggcac tttggggaga ccatgtgcac cctcatcacg 360
 gccatggatg ccaatagtca gttaaccagc acctacatcc tgaccgcat ggccattaac 420
 cgctacctgg ccaactgtcca ccccatctct tccaagaggt tccggaagcc ctctgtggcc 480
 accctgggtga tctgcctcct gtggggccctc tccttcatca gcatcacccc tgtgtggctg 540
 tatgccagac tcatcccctt cccaggaggt gcagtgggct ggggcatacg cctgcccac 600
 ccagacactg acctctactg gttcacccctg taccagtttt tcctggcctt tgccctgcct 660
 tttgtgggtca tcacagccgc atacgtgagg atcctgcagc gcatgacgtc ctcatgtggc 720
 cccgcctccc agcgcagcat ccggtgcgga acaaagaggg tgaccgcgac agccatcgcc 780
 atctgtctgg tcttctttgt gtgctgggca ccctactatg tgctacagct gaccagttg 840
 tccatcagcc gcccgacct cacctttgtc tacttataca atgcggccat cagcttgggc 900
 tatgccaaaca gctgcctcaa cccctttgtg tacatcgtgc tctgtgagac gttccgcaaa 960
 cgcttgggtcc tgtcgggtgaa gcctgcagcc caggggcagc ttgcgctgt cagcaacgct 1020
 cagacggctg acgaggagag gacagaaaagc aaaggcacct ga 1062

<210> 391
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 391

```

Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
 1          5          10          15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
          20          25          30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
          35          40          45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
          50          55          60

Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
          65          70          75          80

Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
          85          90          95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
          100          105          110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
          115          120          125

Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asn Arg Tyr Leu Ala
          130          135          140

Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
          145          150          155          160

Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr
          165          170          175

Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val
          180          185          190

Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe
          195          200          205

Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile
          210          215          220

Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala
          225          230          235          240

Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg
          245          250          255

Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr

```


			420				425				430					
Val	Phe	Val	Leu	Leu	Ile	Leu	Leu	Thr	Ser	His	Tyr	Lys	Leu	Asn	Val	
		435					440					445				
Pro	Arg	Phe	Leu	Met	Cys	Asn	Leu	Ala	Phe	Ala	Asp	Phe	Cys	Met	Gly	
		450				455					460					
Met	Tyr	Leu	Leu	Leu	Ile	Ala	Ser	Val	Asp	Leu	Tyr	Thr	His	Ser	Glu	
465					470					475						480
Tyr	Tyr	Asn	His	Ala	Ile	Asp	Trp	Gln	Thr	Gly	Pro	Gly	Cys	Asn	Thr	
				485					490					495		
Ala	Gly	Phe	Phe	Thr	Val	Phe	Ala	Ser	Glu	Leu	Ser	Ala	Tyr	Thr	Leu	
				500				505								510
Thr	Val	Ile	Thr	Leu	Glu	Arg	Trp	Tyr	Ala	Ile	Thr	Phe	Ala	Met	Arg	
		515					520					525				
Leu	Asp	Arg	Lys	Ile	Arg	Leu	Arg	His	Ala	Cys	Ala	Ile	Met	Val	Gly	
		530				535					540					
Gly	Trp	Val	Cys	Cys	Phe	Leu	Leu	Ala	Leu	Leu	Pro	Leu	Val	Gly	Ile	
545					550					555						560
Ser	Ser	Tyr	Ala	Lys	Val	Ser	Ile	Cys	Leu	Pro	Met	Asp	Thr	Glu	Thr	
				565					570					575		
Pro	Leu	Ala	Leu	Ala	Tyr	Ile	Val	Phe	Val	Leu	Thr	Leu	Asn	Ile	Val	
				580				585								590
Ala	Phe	Val	Ile	Val	Cys	Cys	Cys	Tyr	Val	Lys	Ile	Tyr	Ile	Thr	Val	
		595					600					605				
Arg	Asn	Pro	Gln	Tyr	Asn	Pro	Gly	Asp	Lys	Asp	Thr	Lys	Ile	Ala	Lys	
		610				615					620					
Arg	Met	Ala	Val	Leu	Ile	Phe	Thr	Asp	Phe	Ile	Cys	Met	Ala	Pro	Ile	
625					630					635						640
Ser	Phe	Tyr	Ala	Leu	Ser	Ala	Ile	Leu	Asn	Lys	Pro	Leu	Ile	Thr	Val	
				645					650					655		
Ser	Asn	Ser	Lys	Ile	Leu	Leu	Val	Leu	Phe	Tyr	Pro	Leu	Asn	Ser	Cys	
				660				665								670
Ala	Asn	Pro	Phe	Leu	Tyr	Ala	Ile	Phe	Thr	Lys	Ala	Phe	Gln	Arg	Asp	
		675					680					685				
Val	Phe	Ile	Leu	Leu	Ser	Lys	Phe	Gly	Ile	Cys	Lys	Arg	Gln	Ala	Gln	
		690				695					700					
Ala	Tyr	Arg	Gly	Gln	Arg	Val	Pro	Pro	Lys	Asn	Ser	Thr	Asp	Ile	Gln	
705					710					715					720	
Val	Gln	Lys	Val	Thr	His	Glu	Met	Arg	Gln	Gly	Leu	His	Asn	Met	Gln	

725

730

735

Asp Val Tyr Glu Leu Ile Glu Lys Ser His Leu Thr Pro Lys Lys Gln
740 745 750

Gly Gln Ile Ser Glu Glu Tyr Met Gln Thr Val Leu
755 760

<210> 396

<211> 31

<212> DNA

<213> Homo sapiens

<400> 396

accacagggga caaagggtacc aaaattgcc a

31

<210> 397

<211> 31

<212> DNA

<213> Homo sapiens

<400> 397

ttggcaattt tgggtacctt gtccccctggg t

31

<210> 398

<211> 2292

<212> DNA

<213> Homo sapiens

<400> 398

atgaggccgg cggacttgct gcagctggtg ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat cccagctta cgcgccagta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcac gcattttcta atctgcccac tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cacactcctt ctacaatttg 300
agtaaagtga ctacacataga aattcggaa accaggaact taacttacat agaccctgat 360
gccctcaaa agctccccct cctaaagttc cttggcattt tcaacactgg acttaaaatg 420
ttccctgacc tgaccaaaagt ttattccact gatataattt ttatacttga aattacagac 480
aacccttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
acactgaagc tgtacaacaa cggctttact tcagtcaca gatatgcttt caatgggaca 600
aagctggatg ctgtttacct aaacaagaat aaatacctga cagttattga caaagatgca 660
tttgaggag tatacagtgg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacac ctggactctt 780
aagaaacttc cactttcctt gagtttcctt cacctcacac gggctgacct ttcttaccac 840
agccactgct gtgcctttaa gaatcagaag aaaatcagag gaatccttga gtccttgatg 900
tgtaatgaga gcagtatgca gagcttgcc cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tcttctttga agaacaagag 1080
gatgagatca ttggttttgg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatattg ggggacagtg aagacatggg gtgtaccccc 1200
aagtcggatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggtcg ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctcctc 1320
accagccact acaaactgaa cgtccccgcg tttctcatgt gcaacctggc ctttgcggat 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcactctgag 1440

```
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tggttttcttc 1500
actgtctttg caagcgagtt atcgggtgat acgctgacgg tcatcaccct ggagcgctgg 1560
tatgccatca ccttcgccat gcgcctggac cggaagatcc gcctcaggca cgcattgtgcc 1620
atcatgggtg ggggctgggt ttgctgcttc cttctcgccc tgcttccttt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgcctg cccatggaca ccgagacccc tcttgctctg 1740
gcataatatt tttttgttct gacgctcaac atagttgcct tcgtcatcgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaaggtacc 1860
aaaattgcc aagagatggc tgtgttgatc ttcaccgact tcatatgcat ggccccaatc 1920
tcattctatg ctctgtcagc aattctgaac aagcctctca tcaactgtag caactccaaa 1980
atcttgctgg tactcttcta tccacttaac tcctgtgcca atccattcct ctatgctatt 2040
ttcaccaagg ccttcagag ggatgtgttc atcctactca gcaagtttg catctgtaaa 2100
cgccaggtc aggcataacc ggggcagagg gttcctccaa agaacagcac tgatattcag 2160
gttcaaaagg ttaccacga gatgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
ctgattgaaa agtcccatct aaccccaaag aagcaaggcc aaatctcaga agagtatatg 2280
caaacggttt tg 2292
```

<210> 399
 <211> 764
 <212> PRT
 <213> Homo sapiens

<400> 399
 Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Leu Asp Leu Pro
 1 5 10 15
 Arg Asp Leu Gly Gly Met Gly Cys Ser Ser Pro Pro Cys Glu Cys His
 20 25 30
 Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro
 35 40 45
 Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu
 50 55 60
 Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg
 65 70 75 80
 Ile Tyr Val Ser Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser
 85 90 95
 Phe Tyr Asn Leu Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg
 100 105 110
 Asn Leu Thr Tyr Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu
 115 120 125
 Lys Phe Leu Gly Ile Phe Asn Thr Gly Leu Lys Met Phe Pro Asp Leu
 130 135 140
 Thr Lys Val Tyr Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp
 145 150 155 160
 Asn Pro Tyr Met Thr Ser Ile Pro Val Asn Ala Phe Gln Gly Leu Cys
 165 170 175
 Asn Glu Thr Leu Thr Leu Lys Leu Tyr Asn Asn Gly Phe Thr Ser Val

180	185	190
Gln Gly Tyr Ala Phe Asn Gly Thr Lys Leu Asp Ala Val Tyr Leu Asn		
195	200	205
Lys Asn Lys Tyr Leu Thr Val Ile Asp Lys Asp Ala Phe Gly Gly Val		
210	215	220
Tyr Ser Gly Pro Ser Leu Leu Asp Val Ser Gln Thr Ser Val Thr Ala		
225	230	235
Leu Pro Ser Lys Gly Leu Glu His Leu Lys Glu Leu Ile Ala Arg Asn		
	245	250
Thr Trp Thr Leu Lys Lys Leu Pro Leu Ser Leu Ser Phe Leu His Leu		
	260	265
Thr Arg Ala Asp Leu Ser Tyr Pro Ser His Cys Cys Ala Phe Lys Asn		
	275	280
Gln Lys Lys Ile Arg Gly Ile Leu Glu Ser Leu Met Cys Asn Glu Ser		
	290	295
Ser Met Gln Ser Leu Arg Gln Arg Lys Ser Val Asn Ala Leu Asn Ser		
305	310	315
Pro Leu His Gln Glu Tyr Glu Glu Asn Leu Gly Asp Ser Ile Val Gly		
	325	330
Tyr Lys Glu Lys Ser Lys Phe Gln Asp Thr His Asn Asn Ala His Tyr		
	340	345
Tyr Val Phe Phe Glu Glu Gln Glu Asp Glu Ile Ile Gly Phe Gly Gln		
	355	360
Glu Leu Lys Asn Pro Gln Glu Glu Thr Leu Gln Ala Phe Asp Ser His		
	370	375
Tyr Asp Tyr Thr Ile Cys Gly Asp Ser Glu Asp Met Val Cys Thr Pro		
385	390	395
Lys Ser Asp Glu Phe Asn Pro Cys Glu Asp Ile Met Gly Tyr Lys Phe		
	405	410
Leu Arg Ile Val Val Trp Phe Val Ser Leu Leu Ala Leu Leu Gly Asn		
	420	425
Val Phe Val Leu Leu Ile Leu Leu Thr Ser His Tyr Lys Leu Asn Val		
	435	440
Pro Arg Phe Leu Met Cys Asn Leu Ala Phe Ala Asp Phe Cys Met Gly		
	450	455
Met Tyr Leu Leu Leu Ile Ala Ser Val Asp Leu Tyr Thr His Ser Glu		
465	470	475
Tyr Tyr Asn His Ala Ile Asp Trp Gln Thr Gly Pro Gly Cys Asn Thr		

485

490

495

Ala Gly Phe Phe Thr Val Phe Ala Ser Glu Leu Ser Val Tyr Thr Leu
500 505 510

Thr Val Ile Thr Leu Glu Arg Trp Tyr Ala Ile Thr Phe Ala Met Arg
515 520 525

Leu Asp Arg Lys Ile Arg Leu Arg His Ala Cys Ala Ile Met Val Gly
530 535 540

Gly Trp Val Cys Cys Phe Leu Leu Ala Leu Leu Pro Leu Val Gly Ile
545 550 555 560

Ser Ser Tyr Ala Lys Val Ser Ile Cys Leu Pro Met Asp Thr Glu Thr
565 570 575

Pro Leu Ala Leu Ala Tyr Ile Val Phe Val Leu Thr Leu Asn Ile Val
580 585 590

Ala Phe Val Ile Val Cys Cys Cys Tyr Val Lys Ile Tyr Ile Thr Val
595 600 605

Arg Asn Pro Gln Tyr Asn Pro Gly Asp Lys Gly Thr Lys Ile Ala Lys
610 615 620

Arg Met Ala Val Leu Ile Phe Thr Asp Phe Ile Cys Met Ala Pro Ile
625 630 635 640

Ser Phe Tyr Ala Leu Ser Ala Ile Leu Asn Lys Pro Leu Ile Thr Val
645 650 655

Ser Asn Ser Lys Ile Leu Leu Val Leu Phe Tyr Pro Leu Asn Ser Cys
660 665 670

Ala Asn Pro Phe Leu Tyr Ala Ile Phe Thr Lys Ala Phe Gln Arg Asp
675 680 685

Val Phe Ile Leu Leu Ser Lys Phe Gly Ile Cys Lys Arg Gln Ala Gln
690 695 700

Ala Tyr Arg Gly Gln Arg Val Pro Pro Lys Asn Ser Thr Asp Ile Gln
705 710 715 720

Val Gln Lys Val Thr His Glu Met Arg Gln Gly Leu His Asn Met Glu
725 730 735

Asp Val Tyr Glu Leu Ile Glu Lys Ser His Leu Thr Pro Lys Lys Gln
740 745 750

Gly Gln Ile Ser Glu Glu Tyr Met Gln Thr Val Leu
755 760

<210> 400

<211> 32

<212> DNA

<213> Homo sapiens

<400> 400

aaagatacca aaattatcaa gaggatggct gt

32

<210> 401

<211> 32

<212> DNA

<213> Homo sapiens

<400> 401

acagccatcc tcttgataat tttggtatct tt

32

<210> 402

<211> 2292

<212> DNA

<213> Homo sapiens

<400> 402

atgaggccgg cggacttgct gcagctgggt ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat cccagctta ccgcccagta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcat gcattttcta atctgcccac tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cacactcctt ctacaatttg 300
agtaaagtga ctacataga aattcggaa accaggaact taacttacat agaccctgat 360
gccctcaaag agtccccct cctaaagttc cttggcattt tcaacactgg acttaaaatg 420
ttccctgacc tgaccaaaag ttattccact gatataattt ttatacttga aattacagac 480
aaccctttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
aactgaagc tgtacaacaa cggctttact tcagtccaag gatagcttt caatgggaca 600
aagctggatg ctgtttacct aaacaagaat aaataacctga cagttattga caaagatgca 660
tttgaggagg tatacagtgg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacac ctggactctt 780
aagaaacttc cacttttcctt gagtttcctt cacctcacac gggctgacct ttcttaccac 840
agccactgct gtgcctttta gaatcagaag aaaatcagag gaatccttga gtccttgatg 900
tgtaatgaga gcagtatgca gagcttgctc cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tcttctttga agaacaagag 1080
gatgagatca ttggttttgg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatattg ggggacagtg aagacatggt gtgtaccccc 1200
aagtcggatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggttg ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctcctc 1320
accagccact acaaactgaa cgtccccgc tttctcatgt gcaacctggc ctttgcgatg 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcaactctgag 1440
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tggtttcttc 1500
actgtctttg caagcgagtt atcgggtgat acgctgacgg tcatcacctt ggagcgctgg 1560
tatgccatca ccttcgcat gcgcctggac cggaagatcc gcctcaggca cgcattgtgc 1620
atcatgggtg ggggctgggt ttgctgcttc cttctcgccc tgcttctctt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgctg cccatggaca ccgagacccc tcttgctctg 1740
gcatatattg tttttgttct gacgctcaac atagttgcct tcgtcatcgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaagatacc 1860
aaaattatca agaggatggc tgtgttgatc ttcaccgact tcatatgcat ggccccaatc 1920
tcattctatg ctctgtcagc aattctgaac aagcctctca tcaactgtag caactccaaa 1980
atcttgctgg tactcttcta tccacttaac tcctgtgcca atccattcct ctatgctatt 2040
ttcaccaagg ccttcagag ggatgtgttc atcctactca gcaagtttgg catctgtaaa 2100
cgccaggctc aggcataccg ggggcagagg gttcctccaa agaacagcac tgatattcac 2160

gttcaaaagg ttaccacga gatgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
 ctgattgaaa agtcccatct aaccccaaag aagcaaggcc aaatctcaga agagtatatg 2280
 caaacggttt tg 2292

<210> 403
 <211> 764
 <212> PRT
 <213> Homo sapiens

<400> 403
 Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Leu Asp Leu Pro
 1 5 10 15
 Arg Asp Leu Gly Gly Met Gly Cys Ser Ser Pro Pro Cys Glu Cys His
 20 25 30
 Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro
 35 40 45
 Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu
 50 55 60
 Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg
 65 70 75 80
 Ile Tyr Val Ser Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser
 85 90 95
 Phe Tyr Asn Leu Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg
 100 105 110
 Asn Leu Thr Tyr Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu
 115 120 125
 Lys Phe Leu Gly Ile Phe Asn Thr Gly Leu Lys Met Phe Pro Asp Leu
 130 135 140
 Thr Lys Val Tyr Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp
 145 150 155 160
 Asn Pro Tyr Met Thr Ser Ile Pro Val Asn Ala Phe Gln Gly Leu Cys
 165 170 175
 Asn Glu Thr Leu Thr Leu Lys Leu Tyr Asn Asn Gly Phe Thr Ser Val
 180 185 190
 Gln Gly Tyr Ala Phe Asn Gly Thr Lys Leu Asp Ala Val Tyr Leu Asn
 195 200 205
 Lys Asn Lys Tyr Leu Thr Val Ile Asp Lys Asp Ala Phe Gly Gly Val
 210 215 220
 Tyr Ser Gly Pro Ser Leu Leu Asp Val Ser Gln Thr Ser Val Thr Ala
 225 230 235 240
 Leu Pro Ser Lys Gly Leu Glu His Leu Lys Glu Leu Ile Ala Arg Asn

245							250							255	
Thr	Trp	Thr	Leu 260	Lys	Lys	Leu	Pro	Leu 265	Ser	Leu	Ser	Phe	Leu 270	His	Leu
Thr	Arg	Ala 275	Asp	Leu	Ser	Tyr	Pro 280	Ser	His	Cys	Cys	Ala 285	Phe	Lys	Asn
Gln	Lys 290	Lys	Ile	Arg	Gly	Ile 295	Leu	Glu	Ser	Leu	Met 300	Cys	Asn	Glu	Ser
Ser 305	Met	Gln	Ser	Leu	Arg 310	Gln	Arg	Lys	Ser	Val 315	Asn	Ala	Leu	Asn	Ser 320
Pro	Leu	His	Gln	Glu 325	Tyr	Glu	Glu	Asn 330	Leu	Gly	Asp	Ser	Ile	Val 335	Gly
Tyr	Lys	Glu	Lys 340	Ser	Lys	Phe	Gln	Asp 345	Thr	His	Asn	Asn	Ala 350	His	Tyr
Tyr	Val	Phe 355	Phe	Glu	Glu	Gln	Glu 360	Asp	Glu	Ile	Ile	Gly 365	Phe	Gly	Gln
Glu 370	Leu	Lys	Asn	Pro	Gln	Glu 375	Glu	Thr	Leu	Gln	Ala 380	Phe	Asp	Ser	His
Tyr 385	Asp	Tyr	Thr	Ile	Cys 390	Gly	Asp	Ser	Glu	Asp 395	Met	Val	Cys	Thr	Pro 400
Lys	Ser	Asp	Glu	Phe 405	Asn	Pro	Cys	Glu	Asp 410	Ile	Met	Gly	Tyr	Lys 415	Phe
Leu	Arg	Ile	Val 420	Val	Trp	Phe	Val	Ser 425	Leu	Leu	Ala	Leu	Leu 430	Gly	Asn
Val	Phe 435	Val	Leu	Leu	Ile	Leu	Leu 440	Thr	Ser	His	Tyr	Lys 445	Leu	Asn	Val
Pro 450	Arg	Phe	Leu	Met	Cys	Asn 455	Leu	Ala	Phe	Ala	Asp 460	Phe	Cys	Met	Gly
Met 465	Tyr	Leu	Leu	Leu	Ile 470	Ala	Ser	Val	Asp	Leu 475	Tyr	Thr	His	Ser	Glu 480
Tyr	Tyr	Asn	His	Ala 485	Ile	Asp	Trp	Gln	Thr 490	Gly	Pro	Gly	Cys	Asn 495	Thr
Ala	Gly	Phe	Phe 500	Thr	Val	Phe	Ala	Ser 505	Glu	Leu	Ser	Val	Tyr 510	Thr	Leu
Thr	Val 515	Ile	Thr	Leu	Glu	Arg	Trp 520	Tyr	Ala	Ile	Thr	Phe 525	Ala	Met	Arg
Leu	Asp 530	Arg	Lys	Ile	Arg	Leu 535	Arg	His	Ala	Cys	Ala 540	Ile	Met	Val	Gly
Gly	Trp	Val	Cys	Cys	Phe	Leu	Leu	Ala	Leu	Leu	Pro	Leu	Val	Gly	Ile

cacagccatc ctcttcttaa ttttggatc ttt

33

<210> 406

<211> 2292

<212> DNA

<213> Homo sapiens

<400> 406

atgaggccgg cggacttgct gcagctgggt ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gtctgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat cccagctta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcac gcattttcta atctgoccaa tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cactctctt ctacaatttg 300
agtaaaagtga ctcacataga aattcggaat accaggaact taacttacat agaccctgat 360
gccctcaaag agctccccct cctaaagtct cttggcattt tcaacactgg acttaaaatg 420
ttccctgacc tgaccaaagt ttattccact gatataattt ttatacttga aattacagac 480
aacccttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
aactgaagc tgtacaacaa cggctttact tcagtccaag gatatgcttt caatgggaca 600
aagctggatg ctgtttacct aaacaagaat aaatacctga cagttattga caaagatgca 660
tttgaggagg tatacagtgg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacac ctggactctt 780
aagaaacttc cactttcctt gagtttcctt cacctcacac gggctgacct ttcttacctt 840
agccactgct gtgcctttaa gaatcagaag aaaatcagag gaatccttga gtccttgatg 900
tgtaatgaga gcagtatgca gagcttgctc cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tcttctttga agaacaagag 1080
gatgagatca ttggtttttg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatagt ggggacagtg aagacatggt gtgtaccccc 1200
aagtcggatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggtcg ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctctt 1320
accagccact acaaaactgaa cgtccccgc tttctcatgt gcaacctggc ctttgcgatg 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcaactctgag 1440
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tggtttcttc 1500
actgtctttg caagcgagtt atcgggtgat acgtgacgg tcatcacctt ggagcgtg 1560
tatgccatca ctttcgcat gcgctggac cggaagatcc gcctcaggca cgcattgtgc 1620
atcatgggtt ggggctgggt ttgtgtctt cttctcgccc tgcctctctt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgcctg cccatggaca ccgagacccc tcttgctctg 1740
gcataatatt tttttgttct gacgctcaac atagtgcct tgcctcatgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaagatacc 1860
aaaattaaga agaggatggc tgtgttgatc ttcaccgact tcatatgcat ggccccaatc 1920
tcattctatg ctctgtcagc aattctgaac aagcctctca tcaactgttag caactccaaa 1980
atcttgctgg tactcttcta tccacttaac tctgtgcca atccattct ctatgctatt 2040
ttaccaagg ctttcagag ggatgtgttc atctactca gcaagtttg catctgtaaa 2100
cgccaggctc aggcataccg ggggcagagg gttcctccaa agaacagcac tgatattcag 2160
gttcaaaaagg ttaccacga gatgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
ctgattgaaa agtcccatct aacccaaaag aagcaaggcc aaatctcaga agagtatatg 2280
caaacgggtt tg 2292

<210> 407

<211> 764

<212> PRT

<213> Homo sapiens

<400> 407

Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Asp Leu Pro

1	5	10	15
Arg Asp Leu Gly 20	Gly Met Gly Cys Ser 25	Ser Pro Pro Cys Glu Cys His 30	
Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro 35	40	45	
Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu 50	55	60	
Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg 65	70	75	80
Ile Tyr Val Ser Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser 85	90	95	
Phe Tyr Asn Leu Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg 100	105	110	
Asn Leu Thr Tyr Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu 115	120	125	
Lys Phe Leu Gly Ile Phe Asn Thr Gly Leu Lys Met Phe Pro Asp Leu 130	135	140	
Thr Lys Val Tyr Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp 145	150	155	160
Asn Pro Tyr Met Thr Ser Ile Pro Val Asn Ala Phe Gln Gly Leu Cys 165	170	175	
Asn Glu Thr Leu Thr Leu Lys Leu Tyr Asn Asn Gly Phe Thr Ser Val 180	185	190	
Gln Gly Tyr Ala Phe Asn Gly Thr Lys Leu Asp Ala Val Tyr Leu Asn 195	200	205	
Lys Asn Lys Tyr Leu Thr Val Ile Asp Lys Asp Ala Phe Gly Gly Val 210	215	220	
Tyr Ser Gly Pro Ser Leu Leu Asp Val Ser Gln Thr Ser Val Thr Ala 225	230	235	240
Leu Pro Ser Lys Gly Leu Glu His Leu Lys Glu Leu Ile Ala Arg Asn 245	250	255	
Thr Trp Thr Leu Lys Lys Leu Pro Leu Ser Leu Ser Phe Leu His Leu 260	265	270	
Thr Arg Ala Asp Leu Ser Tyr Pro Ser His Cys Cys Ala Phe Lys Asn 275	280	285	
Gln Lys Lys Ile Arg Gly Ile Leu Glu Ser Leu Met Cys Asn Glu Ser 290	295	300	
Ser Met Gln Ser Leu Arg Gln Arg Lys Ser Val Asn Ala Leu Asn Ser			

305		310		315		320
Pro Leu His Gln Glu Tyr Glu Glu Asn Leu Gly Asp Ser Ile Val Gly						
		325		330		335
Tyr Lys Glu Lys Ser Lys Phe Gln Asp Thr His Asn Asn Ala His Tyr						
		340		345		350
Tyr Val Phe Phe Glu Glu Gln Glu Asp Glu Ile Ile Gly Phe Gly Gln						
		355		360		365
Glu Leu Lys Asn Pro Gln Glu Glu Thr Leu Gln Ala Phe Asp Ser His						
		370		375		380
Tyr Asp Tyr Thr Ile Cys Gly Asp Ser Glu Asp Met Val Cys Thr Pro						
385		390		395		400
Lys Ser Asp Glu Phe Asn Pro Cys Glu Asp Ile Met Gly Tyr Lys Phe						
		405		410		415
Leu Arg Ile Val Val Trp Phe Val Ser Leu Leu Ala Leu Leu Gly Asn						
		420		425		430
Val Phe Val Leu Leu Ile Leu Leu Thr Ser His Tyr Lys Leu Asn Val						
		435		440		445
Pro Arg Phe Leu Met Cys Asn Leu Ala Phe Ala Asp Phe Cys Met Gly						
		450		455		460
Met Tyr Leu Leu Leu Ile Ala Ser Val Asp Leu Tyr Thr His Ser Glu						
465		470		475		480
Tyr Tyr Asn His Ala Ile Asp Trp Gln Thr Gly Pro Gly Cys Asn Thr						
		485		490		495
Ala Gly Phe Phe Thr Val Phe Ala Ser Glu Leu Ser Val Tyr Thr Leu						
		500		505		510
Thr Val Ile Thr Leu Glu Arg Trp Tyr Ala Ile Thr Phe Ala Met Arg						
		515		520		525
Leu Asp Arg Lys Ile Arg Leu Arg His Ala Cys Ala Ile Met Val Gly						
		530		535		540
Gly Trp Val Cys Cys Phe Leu Leu Ala Leu Leu Pro Leu Val Gly Ile						
545		550		555		560
Ser Ser Tyr Ala Lys Val Ser Ile Cys Leu Pro Met Asp Thr Glu Thr						
		565		570		575
Pro Leu Ala Leu Ala Tyr Ile Val Phe Val Leu Thr Leu Asn Ile Val						
		580		585		590
Ala Phe Val Ile Val Cys Cys Cys Tyr Val Lys Ile Tyr Ile Thr Val						
		595		600		605
Arg Asn Pro Gln Tyr Asn Pro Gly Asp Lys Asp Thr Lys Ile Lys Lys						

610	615	620
Arg Met Ala Val Leu Ile Phe Thr Asp Phe Ile Cys Met Ala Pro Ile		
625	630	635 640
Ser Phe Tyr Ala Leu Ser Ala Ile Leu Asn Lys Pro Leu Ile Thr Val		
	645	650 655
Ser Asn Ser Lys Ile Leu Leu Val Leu Phe Tyr Pro Leu Asn Ser Cys		
	660	665 670
Ala Asn Pro Phe Leu Tyr Ala Ile Phe Thr Lys Ala Phe Gln Arg Asp		
	675	680 685
Val Phe Ile Leu Leu Ser Lys Phe Gly Ile Cys Lys Arg Gln Ala Gln		
	690	695 700
Ala Tyr Arg Gly Gln Arg Val Pro Pro Lys Asn Ser Thr Asp Ile Gln		
	705	710 715 720
Val Gln Lys Val Thr His Glu Met Arg Gln Gly Leu His Asn Met Glu		
	725	730 735
Asp Val Tyr Glu Leu Ile Glu Lys Ser His Leu Thr Pro Lys Lys Gln		
	740	745 750
Gly Gln Ile Ser Glu Glu Tyr Met Gln Thr Val Leu		
	755	760

<210> 408
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 408
 ctatccactt aactcgtagc ccaatccatt cctc

34

<210> 409
 <211> 34
 <212> DNA
 <213> Homo sapiens

<400> 409
 gaggaatgga ttggcgtacg agttaagtgg atag

34

<210> 410
 <211> 2292
 <212> DNA
 <213> Homo sapiens

<400> 410
 atgaggccgg cggacttgct gcagctggtg ctgctgctcg acctgcccag ggacctgggc 60
 ggaatggggt gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
 tgcaaggata ttcaacgcatt cccagctta ccgcccagta cgcagactct gaagcttatt 180

gagactcacc	tgagaactat	tccaagtcac	gcattttcta	atctgcccaa	tatttcagaa	240
atctacgtat	ctatagatgt	gactctgcag	cagctggaat	cacactcctt	ctacaatttg	300
agtaaagtga	ctcacataga	aattcggaat	accaggaact	taacttacat	agaccctgat	360
gccctcaaag	agctccccct	cctaaagttc	cttggcattt	tcaacactgg	acttaaaatg	420
ttccctgacc	tgaccaaagt	ttattccact	gatatattct	ttataacttga	aattacagac	480
aacccttaca	tgacgtcaat	ccctgtgaat	gcttttcagg	gactatgcaa	tgaaaccttg	540
acactgaagc	tgtacaacaa	cggctttact	tcagttccaa	gatatgcttt	caatgggaca	600
aagctggatg	ctgtttacct	aaacaagaat	aaatacctga	cagttattga	caaagatgca	660
tttggaggag	tatacagtgg	accaagcttg	ctggacgtgt	ctcaaaccag	tgtcactgcc	720
cttccatcca	aaggcctgga	gcacctgaag	gaactgatag	caagaaaacac	ctggactcct	780
aagaaacttc	cacttttcct	gagtttccct	cacctcacac	gggtgcacct	ttcttaccca	840
agccactgct	gtgcctttaa	gaatcagaag	aaaatcacag	gaatcccttga	gtccttgatg	900
tgtaatgaga	gcagtatgca	gagcttgccg	cagagaaaat	ctgtgaatgc	cttgaatagc	960
ccctccacc	aggaatatga	agagaatctg	ggtgacagca	ttgttgggta	caaggaaaag	1020
tccaagttcc	aggatactca	taacaacgct	cattattacg	tcttctttga	agaacaagag	1080
gatgagatca	ttggttttgg	ccaggagctc	aaaaaccccc	aggaagagac	tctacaagct	1140
tttgacagcc	attatgacta	caccatatgt	ggggacagtg	aagacatggg	gtgtaccccc	1200
aagtccgatg	agtccaaccc	gtgtgaagac	ataatgggct	acaagttcct	gagaattgtg	1260
gtgtggttcg	ttagtctgct	ggctctcctg	ggcaatgtct	ttgtcctgct	tatttctcct	1320
accagccact	acaaaactgaa	cgtcccccg	tttctcatgt	gcaacctggc	ctttgcggat	1380
ttctgcatgg	ggatgtacct	gctcctcatc	gctctgttag	acctctacac	tcactctgag	1440
tactacaacc	atgccatcga	ctggcgagca	ggccctgggt	gcaacacccc	tggtttcttc	1500
actgtctttt	caagcgagtt	atcgctgtat	acgctgacgg	tcatacctgt	ggagcgctgg	1560
tatgccatca	ccttcgcoat	gcgcctggac	cgggaagatc	gcctcaggca	cgcatgtgcc	1620
atcatgggtg	ggggctgggt	ttgtctgttc	cttctcgccc	tgcttccttt	ggtgggaata	1680
agtagctatg	ccaaagtcag	tatctgcctg	cccatggaca	ccgagacccc	tcttgcctctg	1740
gcataatattg	tttttgttct	gacgctcaac	atagttgcct	tcgtcatcgt	ctgctgctgt	1800
tatgtgaaga	tctacatcac	agtccgaaat	ccgcagtaca	accaggggga	caaagatacc	1860
aaaattgccca	agaggatggc	tgtgttgatc	ttcaccgact	tcatatgcat	ggccccaatc	1920
tcattctatg	ctctgtcaac	aattctgaac	aagcctctca	tcactgttag	caactccaaa	1980
atcttgctgg	tactcttcta	tccacttaac	tcctacgcga	atccattcct	ctatgctatt	2040
ttcaccaagg	ccttccagag	ggatgtgttc	atcctactca	gcaagtttgg	catctgtaaa	2100
cgccaggctc	aggcataccg	ggggcgagag	gttctcccaa	agaacagcac	tgatattcag	2160
gttcaaaagg	ttaccacaga	gatgaggcag	ggtctccaca	acatggaaga	tgtctatgaa	2220
ctgattgaaa	agtcccatct	aaccccaaa	aagcaaggcc	aaatctcaga	agagtatatg	2280
caaacggttt	tg					2292

```
<210> 411
<211> 764
<212> PRT
<213> Homo sapiens
```

```

<400> 411
Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Leu Asp Leu Pro
  1                    5                10                15

Arg Asp Leu Gly Gly Met Gly Cys Ser Ser Pro Pro Cys Glu Cys His
                20                25                30

Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro
      35                40                45

Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu
  50                55                60

Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg

```

65		70		75		80
Ile Tyr Val Ser	Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser	85	90	95		
Phe Tyr Asn Leu	Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg	100	105	110		
Asn Leu Thr Tyr	Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu	115	120	125		
Lys Phe Leu Gly	Ile Phe Asn Thr Gly Leu Lys Met Phe Pro Asp Leu	130	135	140		
Thr Lys Val Tyr	Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp	145	150	155	160	
Asn Pro Tyr Met	Thr Ser Ile Pro Val Asn Ala Phe Gln Gly Leu Cys	165	170	175		
Asn Glu Thr Leu	Thr Leu Lys Leu Tyr Asn Asn Gly Phe Thr Ser Val	180	185	190		
Gln Gly Tyr Ala	Phe Asn Gly Thr Lys Leu Asp Ala Val Tyr Leu Asn	195	200	205		
Lys Asn Lys Tyr	Leu Thr Val Ile Asp Lys Asp Ala Phe Gly Gly Val	210	215	220		
Tyr Ser Gly Pro	Ser Leu Leu Asp Val Ser Gln Thr Ser Val Thr Ala	225	230	235	240	
Leu Pro Ser Lys	Gly Leu Glu His Leu Lys Glu Leu Ile Ala Arg Asn	245	250	255		
Thr Trp Thr Leu	Lys Lys Leu Pro Leu Ser Leu Ser Phe Leu His Leu	260	265	270		
Thr Arg Ala Asp	Leu Ser Tyr Pro Ser His Cys Cys Ala Phe Lys Asn	275	280	285		
Gln Lys Lys Ile	Arg Gly Ile Leu Glu Ser Leu Met Cys Asn Glu Ser	290	295	300		
Ser Met Gln Ser	Leu Arg Gln Arg Lys Ser Val Asn Ala Leu Asn Ser	305	310	315	320	
Pro Leu His Gln	Glu Tyr Glu Glu Asn Leu Gly Asp Ser Ile Val Gly	325	330	335		
Tyr Lys Glu Lys	Ser Lys Phe Gln Asp Thr His Asn Asn Ala His Tyr	340	345	350		
Tyr Val Phe Phe	Glu Glu Gln Glu Asp Glu Ile Ile Gly Phe Gly Gln	355	360	365		
Glu Leu Lys Asn	Pro Gln Glu Glu Thr Leu Gln Ala Phe Asp Ser His					

600 595 590 585 580 575 570 565 560 555 550 545 540 535 530 525 520 515 510 505 500 495 490 485 480 475 470 465 460 455 450 445 440 435 430 425 420 415 410 405 400 395 390 385

370	Tyr	Asp	Tyr	Thr	Ile	Cys	Gly	Asp	Ser	Glu	Asp	Met	Val	Cys	Thr	Pro
	385					390					395					400
	Lys	Ser	Asp	Glu	Phe	Asn	Pro	Cys	Glu	Asp	Ile	Met	Gly	Tyr	Lys	Phe
					405					410					415	
	Leu	Arg	Ile	Val	Val	Trp	Phe	Val	Ser	Leu	Leu	Ala	Leu	Leu	Gly	Asn
				420					425					430		
	Val	Phe	Val	Leu	Leu	Ile	Leu	Leu	Thr	Ser	His	Tyr	Lys	Leu	Asn	Val
			435				440						445			
	Pro	Arg	Phe	Leu	Met	Cys	Asn	Leu	Ala	Phe	Ala	Asp	Phe	Cys	Met	Gly
		450					455					460				
	Met	Tyr	Leu	Leu	Leu	Ile	Ala	Ser	Val	Asp	Leu	Tyr	Thr	His	Ser	Glu
	465					470					475					480
	Tyr	Tyr	Asn	His	Ala	Ile	Asp	Trp	Gln	Thr	Gly	Pro	Gly	Cys	Asn	Thr
					485					490					495	
	Ala	Gly	Phe	Phe	Thr	Val	Phe	Ala	Ser	Glu	Leu	Ser	Val	Tyr	Thr	Leu
					500				505					510		
	Thr	Val	Ile	Thr	Leu	Glu	Arg	Trp	Tyr	Ala	Ile	Thr	Phe	Ala	Met	Arg
			515					520					525			
	Leu	Asp	Arg	Lys	Ile	Arg	Leu	Arg	His	Ala	Cys	Ala	Ile	Met	Val	Gly
		530					535					540				
	Gly	Trp	Val	Cys	Cys	Phe	Leu	Leu	Ala	Leu	Leu	Pro	Leu	Val	Gly	Ile
	545					550					555				560	
	Ser	Ser	Tyr	Ala	Lys	Val	Ser	Ile	Cys	Leu	Pro	Met	Asp	Thr	Glu	Thr
					565					570					575	
	Pro	Leu	Ala	Leu	Ala	Tyr	Ile	Val	Phe	Val	Leu	Thr	Leu	Asn	Ile	Val
				580					585					590		
	Ala	Phe	Val	Ile	Val	Cys	Cys	Cys	Tyr	Val	Lys	Ile	Tyr	Ile	Thr	Val
			595					600					605			
	Arg	Asn	Pro	Gln	Tyr	Asn	Pro	Gly	Asp	Lys	Asp	Thr	Lys	Ile	Ala	Lys
		610					615					620				
	Arg	Met	Ala	Val	Leu	Ile	Phe	Thr	Asp	Phe	Ile	Cys	Met	Ala	Pro	Ile
	625					630					635					640
	Ser	Phe	Tyr	Ala	Leu	Ser	Ala	Ile	Leu	Asn	Lys	Pro	Leu	Ile	Thr	Val
					645					650				655		
	Ser	Asn	Ser	Lys	Ile	Leu	Leu	Val	Leu	Phe	Tyr	Pro	Leu	Asn	Ser	Tyr
				660					665					670		
	Ala	Asn	Pro	Phe	Leu	Tyr	Ala	Ile	Phe	Thr	Lys	Ala	Phe	Gln	Arg	Asp

675 680 685

Val Phe Ile Leu Leu Ser Lys Phe Gly Ile Cys Lys Arg Gln Ala Gln
690 695 700

Ala Tyr Arg Gly Gln Arg Val Pro Pro Lys Asn Ser Thr Asp Ile Gln
705 710 715 720

Val Gln Lys Val Thr His Glu Met Arg Gln Gly Leu His Asn Met Glu
725 730 735

Asp Val Tyr Glu Leu Ile Glu Lys Ser His Leu Thr Pro Lys Lys Gln
740 745 750

Gly Gln Ile Ser Glu Glu Tyr Met Gln Thr Val Leu
755 760

<210> 412
<211> 44
<212> DNA
<213> Homo sapiens

<400> 412
accagggga caaaggtacc aaaattaaga agaggatggc tgtg 44

<210> 413
<211> 44
<212> DNA
<213> Homo sapiens

<400> 413
cacagccatc ctcttcttaa ttttggtacc tttgtcccct gggg 44

<210> 414
<211> 2292
<212> DNA
<213> Homo sapiens

<400> 414
atgaggccgg cggacttgct gcagctgggt ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat cccagctta ccgcccagta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcac gcattttota atctgcccac tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cacactcctt ctacaatttg 300
agtaaagtga ctcacataga aattcggaat accaggaact taacttacat agaccctgat 360
gccctcaaag agctccccct cctaaagttc cttggcattt tcaacactgg acttaaaatg 420
ttccctgacc tgaccaaaagt ttattccact gatataattt ttatacttga aattacagac 480
aacccttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
aactgaagc tgtacaacaa cggttttact tcagtccaag gatatgcttt caatgggaca 600
aagctggatg ctgtttacct aaacaagaat aaatacctga cagttattga caaagatgca 660
tttgaggagg tatacagtg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacac ctggactctt 780
aagaaacttc cacttttcctt gagtttcctt cacctcacac gggctgacct ttcttaccga 840
agccactgct gtgcctttaa gaatcagaag aaaatcagag gaatccttga gtccttgatg 900

```

tgtaatgaga gcagtatgca gagcttgccg cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tcttctttga agaacaagag 1080
gatgagatca ttgggttttg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatatgt ggggacagtg aagacatggt gtgtaccccc 1200
aagtcgcatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggttcg ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctcctc 1320
accagccact acaaactgaa cgtccccccg tttctcatgt gcaacctggc ctttgcggat 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcactctgag 1440
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tggtttcttc 1500
actgtctttg caagcgagtt atcgggtgat acgctgacgg tcatcacccct ggagcgctgg 1560
tatgccatca ccttcgccat gcgctgggac cggaagatcc gcctcaggca cgcattgtgc 1620
atcatgggtg ggggctgggt ttgctgcttc cttctcgccc tgcttctctt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgcctg cccatggaca ccgagacccc tcttgctctg 1740
gcatatattg tttttgttct gacgtcaaac atagttgcct tcgtcatcgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaaggtagc 1860
aaaattaaga agaggatggc tgtgttgatc ttcaaccgact tcatatgcat ggccccaatc 1920
tcattctatg ctctgtcagc aattctgaac aagcctctca tcaactgtag caactccaaa 1980
atcttgctgg tactcttcta tccacttaac tcctgtgcca atccattcct ctatgctatt 2040
ttcaccaagg ccttcagag ggatgtgttc atcctactca gcaagtttg catctgtaaa 2100
cgccaggctc aggcataccg ggggcagagg gttcctccaa agaacagcac tgatattcag 2160
gttcaaaagg ttaccacga gatgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
ctgattgaaa agtcccatct aaccccaaag aagcaaggcc aaatctcaga agagtatatg 2280
caaacggttt tg                                     2292

```

<210> 415
 <211> 764
 <212> PRT
 <213> Homo sapiens

<400> 415

Met	Arg	Pro	Ala	Asp	Leu	Leu	Gln	Leu	Val	Leu	Leu	Leu	Asp	Leu	Pro
1				5					10					15	
Arg	Asp	Leu	Gly	Gly	Met	Gly	Cys	Ser	Ser	Pro	Pro	Cys	Glu	Cys	His
			20					25					30		
Gln	Glu	Glu	Asp	Phe	Arg	Val	Thr	Cys	Lys	Asp	Ile	Gln	Arg	Ile	Pro
			35				40					45			
Ser	Leu	Pro	Pro	Ser	Thr	Gln	Thr	Leu	Lys	Leu	Ile	Glu	Thr	His	Leu
	50					55					60				
Arg	Thr	Ile	Pro	Ser	His	Ala	Phe	Ser	Asn	Leu	Pro	Asn	Ile	Ser	Arg
65					70				75					80	
Ile	Tyr	Val	Ser	Ile	Asp	Val	Thr	Leu	Gln	Gln	Leu	Glu	Ser	His	Ser
				85					90					95	
Phe	Tyr	Asn	Leu	Ser	Lys	Val	Thr	His	Ile	Glu	Ile	Arg	Asn	Thr	Arg
			100					105					110		
Asn	Leu	Thr	Tyr	Ile	Asp	Pro	Asp	Ala	Leu	Lys	Glu	Leu	Pro	Leu	Leu
			115				120					125			
Lys	Phe	Leu	Gly	Ile	Phe	Asn	Thr	Gly	Leu	Lys	Met	Phe	Pro	Asp	Leu

	130					135					140					
Thr 145	Lys	Val	Tyr	Ser	Thr 150	Asp	Ile	Phe	Phe	Ile 155	Leu	Glu	Ile	Thr	Asp 160	
Asn	Pro	Tyr	Met	Thr 165	Ser	Ile	Pro	Val	Asn	Ala	Phe	Gln	Gly	Leu	Cys 175	
Asn	Glu	Thr	Leu 180	Thr	Leu	Lys	Leu	Tyr 185	Asn	Asn	Gly	Phe	Thr	Ser	Val	
Gln	Gly	Tyr 195	Ala	Phe	Asn	Gly	Thr 200	Lys	Leu	Asp	Ala	Val 205	Tyr	Leu	Asn	
Lys	Asn 210	Lys	Tyr	Leu	Thr	Val 215	Ile	Asp	Lys	Asp	Ala 220	Phe	Gly	Gly	Val	
Tyr 225	Ser	Gly	Pro	Ser	Leu 230	Leu	Asp	Val	Ser	Gln 235	Thr	Ser	Val	Thr	Ala 240	
Leu	Pro	Ser	Lys	Gly 245	Leu	Glu	His	Leu	Lys	Glu	Leu	Ile	Ala	Arg	Asn 255	
Thr	Trp	Thr	Leu 260	Lys	Lys	Leu	Pro	Leu 265	Ser	Leu	Ser	Phe	Leu	His	Leu	
Thr	Arg	Ala 275	Asp	Leu	Ser	Tyr	Pro 280	Ser	His	Cys	Cys	Ala 285	Phe	Lys	Asn	
Gln	Lys 290	Lys	Ile	Arg	Gly	Ile 295	Leu	Glu	Ser	Leu	Met 300	Cys	Asn	Glu	Ser	
Ser 305	Met	Gln	Ser	Leu	Arg 310	Gln	Arg	Lys	Ser	Val 315	Asn	Ala	Leu	Asn	Ser 320	
Pro	Leu	His	Gln	Glu 325	Tyr	Glu	Glu	Asn	Leu	Gly	Asp	Ser	Ile	Val	Gly 335	
Tyr	Lys	Glu	Lys 340	Ser	Lys	Phe	Gln	Asp 345	Thr	His	Asn	Asn	Ala 350	His	Tyr	
Tyr	Val	Phe 355	Phe	Glu	Glu	Gln	Glu 360	Asp	Glu	Ile	Ile	Gly 365	Phe	Gly	Gln	
Glu	Leu 370	Lys	Asn	Pro	Gln	Glu 375	Glu	Thr	Leu	Gln	Ala 380	Phe	Asp	Ser	His	
Tyr 385	Asp	Tyr	Thr	Ile	Cys 390	Gly	Asp	Ser	Glu	Asp 395	Met	Val	Cys	Thr	Pro 400	
Lys	Ser	Asp	Glu	Phe 405	Asn	Pro	Cys	Glu	Asp 410	Ile	Met	Gly	Tyr	Lys	Phe 415	
Leu	Arg	Ile	Val 420	Val	Trp	Phe	Val	Ser 425	Leu	Leu	Ala	Leu	Leu	Gly	Asn 430	
Val	Phe	Val	Leu	Leu	Ile	Leu	Leu	Thr	Ser	His	Tyr	Lys	Leu	Asn	Val	

435	440	445																	
Pro Arg Phe Leu Met Cys Asn Leu Ala Phe Ala Asp Phe Cys Met Gly																			
450					455					460									
Met Tyr Leu Leu Leu Ile Ala Ser Val Asp Leu Tyr Thr His Ser Glu					470					475									480
465																			
Tyr Tyr Asn His Ala Ile Asp Trp Gln Thr Gly Pro Gly Cys Asn Thr				485					490							495			
Ala Gly Phe Phe Thr Val Phe Ala Ser Glu Leu Ser Val Tyr Thr Leu				500				505							510				
Thr Val Ile Thr Leu Glu Arg Trp Tyr Ala Ile Thr Phe Ala Met Arg				515			520							525					
Leu Asp Arg Lys Ile Arg Leu Arg His Ala Cys Ala Ile Met Val Gly						535					540								
530																			
Gly Trp Val Cys Cys Phe Leu Leu Ala Leu Leu Pro Leu Val Gly Ile					550					555									560
545																			
Ser Ser Tyr Ala Lys Val Ser Ile Cys Leu Pro Met Asp Thr Glu Thr				565					570							575			
Pro Leu Ala Leu Ala Tyr Ile Val Phe Val Leu Thr Leu Asn Ile Val				580				585							590				
Ala Phe Val Ile Val Cys Cys Cys Tyr Val Lys Ile Tyr Ile Thr Val				595			600							605					
Arg Asn Pro Gln Tyr Asn Pro Gly Asp Lys Gly Thr Lys Ile Lys Lys						615						620							
610																			
Arg Met Ala Val Leu Ile Phe Thr Asp Phe Ile Cys Met Ala Pro Ile					630					635									640
625																			
Ser Phe Tyr Ala Leu Ser Ala Ile Leu Asn Lys Pro Leu Ile Thr Val				645					650							655			
Ser Asn Ser Lys Ile Leu Leu Val Leu Phe Tyr Pro Leu Asn Ser Cys				660				665							670				
Ala Asn Pro Phe Leu Tyr Ala Ile Phe Thr Lys Ala Phe Gln Arg Asp				675			680							685					
Val Phe Ile Leu Leu Ser Lys Phe Gly Ile Cys Lys Arg Gln Ala Gln						695						700							
690																			
Ala Tyr Arg Gly Gln Arg Val Pro Pro Lys Asn Ser Thr Asp Ile Gln					710					715									720
705																			
Val Gln Lys Val Thr His Glu Met Arg Gln Gly Leu His Asn Met Glu				725					730							735			
Asp Val Tyr Glu Leu Ile Glu Lys Ser His Leu Thr Pro Lys Lys Gln																			

740

745

750

Gly Gln Ile Ser Glu Glu Tyr Met Gln Thr Val Leu
755 760

<210> 416
<211> 32
<212> DNA
<213> Homo sapiens

<400> 416
caagcgaagt atcgcatat acgctgacgg tc 32

<210> 417
<211> 34
<212> DNA
<213> Homo sapiens

<400> 417
gaggaatgga ttggcgtacg agttaagtgg atag 34

<210> 418
<211> 2292
<212> DNA
<213> Homo sapiens

<400> 418
atgaggccgg cgacttgct gcagctggtg ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat ccccagctta ccgcccagta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcac gcattttcta atctgcccac tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cacactcctt ctacaatttg 300
agtaaagtga ctacataga aattcggaat accagggaact taacttacat agacctgat 360
gccctcaaag agtccccct cctaaagtgc cttggcattt tcaacactgg acttaaaatg 420
ttccctgacc tgaccaaagt ttattccact gatataattt ttatacttga aattacagac 480
aacccttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
acactgaagc tgtacaacaa cggctttact tcagtccaag gatatgcttt caatgggaca 600
aagctggatg ctgtttacct aaacaagaat aaataacctga cagttattga caaagatgca 660
tttgaggagg tatacagtgg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacac ctggactcct 780
aagaaacttc cacttttcctt gagtttcctt cacctcacac gggctgacct ttcttaccac 840
agccactgct gtgcctttaa gaatcagaag aaaatcagag gaatccttga gtcttggatg 900
tgtaatgaga gcagtatgca gagcttgccg cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tcttctttga agaacaagag 1080
gatgagatca ttggttttgg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatattg ggggacagtg aagacatggg gtgtaccccc 1200
aagtcggatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggttc ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctctct 1320
accagccact acaaaactgaa cgtccccgcg tttctcatgt gaaacctggc ctttgoggat 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcaactctgag 1440
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tgggtttcttc 1500
actgtctttg caagcgagtt atcggtgcat acgctgacgg tcatcaccct ggagcgctgg 1560
tatgccatca ccttcgccat gcgcctggac cggaagatcc gcctcaggca cgcattgtgc 1620

```

atcatggttg ggggctgggt ttgctgcttc cttctcgccc tgottccttt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgcctg cccatggaca ccgagacccc tcttgctctg 1740
gcatatatatg tttttgttct gacgctcaac atagttgcct tcgtcatcgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaagatacc 1860
aaaattgcc aagaggatggc tgtgttgatc ttcaccgact tcatatgcat ggccccaatc 1920
tcattctatg ctctgtcagc aattctgaac aagcctctca tcaactgtag caactccaaa 1980
atcttgctgg tactcttcta tccacttaac tcctacgcca atccattcct ctatgctatt 2040
ttcaccaagg ccttccagag ggatgtgttc atcctactca gcaagtttgg catctgtaaa 2100
cgccaggctc aggcataccg ggggcagagg gttcctccaa agaacagcac tgatattcag 2160
gttcaaaagg ttaccacga gatgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
ctgattgaaa agtcccatct aacccaaaag aagcaaggcc aaatctcaga agagtatatg 2280
caaacggttt tg                                     2292

```

<210> 419
 <211> 764
 <212> PRT
 <213> Homo sapiens

<400> 419

```

Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Leu Asp Leu Pro
 1           5           10           15

Arg Asp Leu Gly Gly Met Gly Cys Ser Ser Pro Pro Cys Glu Cys His
          20           25           30

Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro
          35           40           45

Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu
          50           55           60

Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg
          65           70           75           80

Ile Tyr Val Ser Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser
          85           90           95

Phe Tyr Asn Leu Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg
          100          105          110

Asn Leu Thr Tyr Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu
          115          120          125

Lys Phe Leu Gly Ile Phe Asn Thr Gly Leu Lys Met Phe Pro Asp Leu
          130          135          140

Thr Lys Val Tyr Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp
          145          150          155          160

Asn Pro Tyr Met Thr Ser Ile Pro Val Asn Ala Phe Gln Gly Leu Cys
          165          170          175

Asn Glu Thr Leu Thr Leu Lys Leu Tyr Asn Asn Gly Phe Thr Ser Val
          180          185          190

Gln Gly Tyr Ala Phe Asn Gly Thr Lys Leu Asp Ala Val Tyr Leu Asn

```


aaagatacca aaattaagaa gaggatggct gtg

33

<210> 421

<211> 33

<212> DNA

<213> Homo sapiens

<400> 421

cacagccatc ctcttcttaa ttttggatc ttt

33

<210> 422

<211> 2292

<212> DNA

<213> Homo sapiens

<400> 422

atgaggccgg cggacttgct gcagctgggt ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat cccagctta ccgcccagta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcag gcatthttcta atctgcccac tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cacactcctt ctacaatttg 300
agtaaagtga ctcacataga aattcgggaat accaggaaact taacttacat agacctgat 360
gccctcaaag agctccccct cctaaagttc cttggcattt tcaacactgg acttaaaatg 420
ttccctgacc tgaccaaaagt ttattccact gatataattt ttatacttga aattacagac 480
aacccttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
aactgaagc tgtacaacaa cggctttact tcagtcctaa gatatgcttt caatgggaca 600
aagctggatg ctgtttacct aaacaagaat aaatacctga cagttattga caaagatgca 660
tttgaggagg tatacagtgg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacac ctggactcct 780
aagaaacttc cactttcctt gaggtttcctt cacttcacac gggctgacct ttcttaccac 840
agccactgct gtgcctttta gaatcagaag aaaatcagag gaatccttga gtccttgatg 900
tgtaatgaga gcagtatgca gagcttgccg cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tcttctttga agaacaagag 1080
gatgagatca ttgggttttg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatattg ggggacagtg aagacatggg gtgtaccccc 1200
aagtcggatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggttg ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctcctc 1320
accagccact acaaaactgaa cgtccccgcg tttctcatgt gcaacctggc ctttgccgat 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcactctgag 1440
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tggttttctt 1500
actgtctttg caagcgagtt atcgggtgcat acgtgacgg tcatcaccct ggagcgctgg 1560
tatgccatca ccttcgccat gcgcctggac cggagatcc gcctcaggca cgcattgtgc 1620
atcatggttg ggggctgggt ttgctgcttc cttctcgccc tgcttccttt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgcctg cccatggaca ccgagacccc tcttgctctg 1740
gcataatattg tttttgttct gacgctcaac atagttgcct tcgtcatcgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaagatacc 1860
aaaattaaga agaggatggc tgtgttgatc ttcaccgact tcatatgcat ggccccaatc 1920
tcattctatg ctctgtcagc aattctgaac aagcctctca tcactgttag caactccaaa 1980
atcttgctgg tactcttcta tccacttaac tctacgcca atccattcct ctatgctatt 2040
ttcaccagg ccttcagag ggatgtgttc atcctactca gcaagtttgg catctgtaaa 2100
cgccaggctc aggcataccg ggggcagagg gttcctccaa agaacagcac tgatattcag 2160
gttcaaaagg ttaccacaga gatgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
ctgattgaaa agtcccatct aacccccaaag aagcaaggcc aaatctcaga agagtatatg 2280
caaacgggtt tg 2292

<210> 423
 <211> 764
 <212> PRT
 <213> Homo sapiens

<400> 423

```

Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Leu Asp Leu Pro
 1           5           10           15

Arg Asp Leu Gly Gly Met Gly Cys Ser Ser Pro Pro Cys Glu Cys His
          20           25           30

Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro
      35           40           45

Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu
      50           55           60

Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg
      65           70           75           80

Ile Tyr Val Ser Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser
          85           90           95

Phe Tyr Asn Leu Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg
          100           105           110

Asn Leu Thr Tyr Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu
      115           120           125

Lys Phe Leu Gly Ile Phe Asn Thr Gly Leu Lys Met Phe Pro Asp Leu
      130           135           140

Thr Lys Val Tyr Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp
      145           150           155           160

Asn Pro Tyr Met Thr Ser Ile Pro Val Asn Ala Phe Gln Gly Leu Cys
          165           170           175

Asn Glu Thr Leu Thr Leu Lys Leu Tyr Asn Asn Gly Phe Thr Ser Val
          180           185           190

Gln Gly Tyr Ala Phe Asn Gly Thr Lys Leu Asp Ala Val Tyr Leu Asn
      195           200           205

Lys Asn Lys Tyr Leu Thr Val Ile Asp Lys Asp Ala Phe Gly Gly Val
      210           215           220

Tyr Ser Gly Pro Ser Leu Leu Asp Val Ser Gln Thr Ser Val Thr Ala
      225           230           235           240

Leu Pro Ser Lys Gly Leu Glu His Leu Lys Glu Leu Ile Ala Arg Asn
          245           250           255

Thr Trp Thr Leu Lys Lys Leu Pro Leu Ser Leu Ser Phe Leu His Leu

```

260	265	270
Thr Arg Ala Asp Leu Ser Tyr Pro Ser His Cys Cys Ala Phe Lys Asn		
275	280	285
Gln Lys Lys Ile Arg Gly Ile Leu Glu Ser Leu Met Cys Asn Glu Ser		
290	295	300
Ser Met Gln Ser Leu Arg Gln Arg Lys Ser Val Asn Ala Leu Asn Ser		
305	310	315
Pro Leu His Gln Glu Tyr Glu Glu Asn Leu Gly Asp Ser Ile Val Gly		
325	330	335
Tyr Lys Glu Lys Ser Lys Phe Gln Asp Thr His Asn Asn Ala His Tyr		
340	345	350
Tyr Val Phe Phe Glu Glu Gln Glu Asp Glu Ile Ile Gly Phe Gly Gln		
355	360	365
Glu Leu Lys Asn Pro Gln Glu Glu Thr Leu Gln Ala Phe Asp Ser His		
370	375	380
Tyr Asp Tyr Thr Ile Cys Gly Asp Ser Glu Asp Met Val Cys Thr Pro		
385	390	395
Lys Ser Asp Glu Phe Asn Pro Cys Glu Asp Ile Met Gly Tyr Lys Phe		
405	410	415
Leu Arg Ile Val Val Trp Phe Val Ser Leu Leu Ala Leu Leu Gly Asn		
420	425	430
Val Phe Val Leu Leu Ile Leu Leu Thr Ser His Tyr Lys Leu Asn Val		
435	440	445
Pro Arg Phe Leu Met Cys Asn Leu Ala Phe Ala Asp Phe Cys Met Gly		
450	455	460
Met Tyr Leu Leu Leu Ile Ala Ser Val Asp Leu Tyr Thr His Ser Glu		
465	470	475
Tyr Tyr Asn His Ala Ile Asp Trp Gln Thr Gly Pro Gly Cys Asn Thr		
485	490	495
Ala Gly Phe Phe Thr Val Phe Ala Ser Glu Leu Ser Ala Tyr Thr Leu		
500	505	510
Thr Val Ile Thr Leu Glu Arg Trp Tyr Ala Ile Thr Phe Ala Met Arg		
515	520	525
Leu Asp Arg Lys Ile Arg Leu Arg His Ala Cys Ala Ile Met Val Gly		
530	535	540
Gly Trp Val Cys Cys Phe Leu Leu Ala Leu Leu Pro Leu Val Gly Ile		
545	550	555
Ser Ser Tyr Ala Lys Val Ser Ile Cys Leu Pro Met Asp Thr Glu Thr		


```

catggagcat ctcccgcccc gcagcccaag aagagtgtga atggagagtc ggggagcagg 780
aactggaggc tgggcgtgga gagcaaggct ggggggtgctc tgtgcgccaa tggcgcggtg 840
aggcaagggtg acgatggcgc cgccctggag gtgatcgagg tgcaccgagt gggcaactcc 900
aaagagcact tgcctctgcc cagcgaggct ggtcctaccc cttgtgcccc cgcctctttc 960
gagaggaaaa atgagcgcaa cgccgaggcg aagcgcaaga tggccctggc ccgagagagg 1020
aagacaaaga agacgctggg catcatcatg ggcaccttca tcctctgctg gctgcccttc 1080
ttcatcgtgg ctcttgttct gcccttctgc gagagcagct gccacatgcc caccctgttg 1140
ggcgccataa tcaattggct gggctactcc aactctctgc ttaaccccg catttacgca 1200
tacttcaaca aggactttca aaacgcgttt aagaagatca ttaagtgtaa cttctgccgc 1260
cagtga

```

<210> 425

<211> 421

<212> PRT

<213> Homo sapiens

<400> 425

```

Met Asp Val Leu Ser Pro Gly Gln Gly Asn Asn Thr Thr Ser Pro Pro
  1              5              10              15

Ala Pro Phe Glu Thr Gly Gly Asn Thr Thr Gly Ile Ser Asp Val Thr
      20              25              30

Val Ser Tyr Gln Val Ile Thr Ser Leu Leu Leu Gly Thr Leu Ile Phe
      35              40              45

Cys Ala Val Leu Gly Asn Ala Cys Val Val Ala Ala Ile Ala Leu Glu
      50              55              60

Arg Ser Leu Gln Asn Val Ala Asn Tyr Leu Ile Gly Ser Leu Ala Val
      65              70              75              80

Thr Asp Leu Met Val Ser Val Leu Val Leu Pro Met Ala Ala Leu Tyr
      85              90              95

Gln Val Leu Asn Lys Trp Thr Leu Gly Gln Val Thr Cys Asp Leu Phe
      100             105             110

Ile Ala Leu Asp Val Leu Cys Cys Thr Ser Ser Ile Leu His Leu Cys
      115             120             125

Ala Ile Ala Leu Asp Arg Tyr Trp Ala Ile Thr Asp Pro Ile Asp Tyr
      130             135             140

Val Asn Lys Arg Thr Pro Arg Pro Arg Ala Leu Ile Ser Leu Thr Trp
      145             150             155             160

Leu Ile Gly Phe Leu Ile Ser Ile Pro Pro Ile Leu Gly Trp Arg Thr
      165             170             175

Pro Glu Asp Arg Ser Asp Pro Asp Ala Cys Thr Ile Ser Lys Asp His
      180             185             190

Gly Tyr Thr Ile Tyr Ser Thr Phe Gly Ala Phe Tyr Ile Pro Leu Leu
      195             200             205

```

Leu Met Leu Val Leu Tyr Gly Arg Ile Phe Arg Ala Ala Arg Phe Arg
 210 215 220

Ile Arg Lys Thr Val Lys Lys Val Glu Lys Thr Gly Ala Asp Thr Arg
 225 230 235 240

His Gly Ala Ser Pro Ala Pro Gln Pro Lys Lys Ser Val Asn Gly Glu
 245 250 255

Ser Gly Ser Arg Asn Trp Arg Leu Gly Val Glu Ser Lys Ala Gly Gly
 260 265 270

Ala Leu Cys Ala Asn Gly Ala Val Arg Gln Gly Asp Asp Gly Ala Ala
 275 280 285

Leu Glu Val Ile Glu Val His Arg Val Gly Asn Ser Lys Glu His Leu
 290 295 300

Pro Leu Pro Ser Glu Ala Gly Pro Thr Pro Cys Ala Pro Ala Ser Phe
 305 310 315 320

Glu Arg Lys Asn Glu Arg Asn Ala Glu Ala Lys Arg Lys Met Ala Leu
 325 330 335

Ala Arg Glu Arg Lys Thr Lys Lys Thr Leu Gly Ile Ile Met Gly Thr
 340 345 350

Phe Ile Leu Cys Trp Leu Pro Phe Phe Ile Val Ala Leu Val Leu Pro
 355 360 365

Phe Cys Glu Ser Ser Cys His Met Pro Thr Leu Leu Gly Ala Ile Ile
 370 375 380

Asn Trp Leu Gly Tyr Ser Asn Ser Leu Leu Asn Pro Val Ile Tyr Ala
 385 390 395 400

Tyr Phe Asn Lys Asp Phe Gln Asn Ala Phe Lys Lys Ile Ile Lys Cys
 405 410 415

Asn Phe Cys Arg Gln
 420

<210> 426

<211> 1173

<212> DNA

<213> Homo sapiens

<400> 426

atggaggaac cgggtgctca gtgcgctcca ccgccgcccg cgggctccga gacctggggtt 60
 cctcaagcca acttatcctc tgcctcctcc caaaactgca gcgccaagga ctacatttac 120
 caggactcca tctccctacc ctggaaagta ctgctgggta tgctattggc gctcatcacc 180
 ttggccacca cgctctccaa tgcctttgtg attgccacag tgtaccggac ccgaaactg 240
 cacaccccg ctaactacct gatcgctct ctggcagtca ccgacctgct tgtgtccatc 300
 ctggtgatgc ccatcagcac catgtacact gtcaccggcc gctggacact gggccagggtg 360
 gtctgtgact tctggctgtc gtccgacatc acttggttga ctgcctccat cctgcacctc 420
 tgtgtcatcg ccctggaccg ctactgggcc atcacggacg ccgtggagta ctcagctaaa 480

```

aggactccca agagggcggc ggtcatgato gcgctgggtgt gggctcttctc catctctatc 540
tcgctgccgc ccttcttctg gcgtcaggct aaggccgaag aggaggtgtc ggaatgcgtg 600
gtgaacaccg accacatcct ctacacgggc tactccacgg tgggtgcttt ctacttcccc 660
accctgctcc tcatcgccct ctatggccgc atctacgtag aagcccgcct ccggattttg 720
aaacagacgc ccaacaggac cggcaagcgc ttgaccgag cccagctgat aaccgactcc 780
cccgggtcca cgtcctcggt cacctctatt aactcgcggt tccccgacgt gccagcgaa 840
tccggatctc ctgtgtatgt gaaccaagtc aaagtgcgag tctccgacgc cctgctggaa 900
aagaagaaac tcatggccgc tagggagcgc aaagccaaga agaccctagg gatcattttg 960
ggagccttta ttgtgtgttg gctacccttc ttcacatctt ccctagtgat gcctatctgc 1020
aaagatgcct gctggttcca cctagccatc tttgacttct tcacatgggt gggctatctc 1080
aactccctca tcaaccccat aatctatacc atgtccaatg aggactttaa acaagcattc 1140
cataaactga tacgttttaa gtgcacaagt tga 1173

```

<210> 427

<211> 390

<212> PRT

<213> Homo sapiens

<400> 427

```

Met Glu Glu Pro Gly Ala Gln Cys Ala Pro Pro Pro Pro Ala Gly Ser
  1              5              10              15

Glu Thr Trp Val Pro Gln Ala Asn Leu Ser Ser Ala Pro Ser Gln Asn
      20              25              30

Cys Ser Ala Lys Asp Tyr Ile Tyr Gln Asp Ser Ile Ser Leu Pro Trp
      35              40              45

Lys Val Leu Leu Val Met Leu Leu Ala Leu Ile Thr Leu Ala Thr Thr
      50              55              60

Leu Ser Asn Ala Phe Val Ile Ala Thr Val Tyr Arg Thr Arg Lys Leu
      65              70              75              80

His Thr Pro Ala Asn Tyr Leu Ile Ala Ser Leu Ala Val Thr Asp Leu
      85              90              95

Leu Val Ser Ile Leu Val Met Pro Ile Ser Thr Met Tyr Thr Val Thr
      100              105              110

Gly Arg Trp Thr Leu Gly Gln Val Val Cys Asp Phe Trp Leu Ser Ser
      115              120              125

Asp Ile Thr Cys Cys Thr Ala Ser Ile Leu His Leu Cys Val Ile Ala
      130              135              140

Leu Asp Arg Tyr Trp Ala Ile Thr Asp Ala Val Glu Tyr Ser Ala Lys
      145              150              155              160

Arg Thr Pro Lys Arg Ala Ala Val Met Ile Ala Leu Val Trp Val Phe
      165              170              175

Ser Ile Ser Ile Ser Leu Pro Pro Phe Phe Trp Arg Gln Ala Lys Ala
      180              185              190

Glu Glu Glu Val Ser Glu Cys Val Val Asn Thr Asp His Ile Leu Tyr

```


acggcccacc tcatcacagg ctctgccggg tcctcgtctt gctcgtcaa ctccagcctc 780
catgaggggc actcgcactc ggctggctcc cctctctttt tcaaccacgt gaaaatcaag 840
cttgctgaca gtgccctgga acgcaagagg atttctgctg ctcgagaaaag gaaagccaag 900
aaaatcctgg gcatcattct gggggccttt atcatctgct ggctgccctt cttcgtggtg 960
tctctgggtc tccccatctg ccgggactcc tgctggatcc acccggcgct ctttgacttc 1020
ttcacctggc taggctattt aaactccctc atcaatccaa taatctacac tgtgtttaat 1080
gaagagtttc ggcaagcttt tcagaaaatt gtccctttcc ggaaggcctc ctac 1134

<210> 429

<211> 377

<212> PRT

<213> Homo sapiens

<400> 429

Met Ser Pro Leu Asn Gln Ser Ala Glu Gly Leu Pro Gln Glu Ala Ser
1 5 10 15

Asn Arg Ser Leu Asn Ala Thr Glu Thr Ser Glu Ala Trp Asp Pro Arg
20 25 30

Thr Leu Gln Ala Leu Lys Ile Ser Leu Ala Val Val Leu Ser Val Ile
35 40 45

Thr Leu Ala Thr Val Leu Ser Asn Ala Phe Val Leu Thr Thr Ile Leu
50 55 60

Leu Thr Arg Lys Leu His Thr Pro Ala Asn Tyr Leu Ile Gly Ser Leu
65 70 75 80

Ala Thr Thr Asp Leu Leu Val Ser Ile Leu Val Met Pro Ile Ser Ile
85 90 95

Ala Tyr Thr Ile Thr His Thr Trp Asn Phe Gly Gln Ile Leu Cys Asp
100 105 110

Ile Trp Leu Ser Ser Asp Ile Thr Cys Cys Thr Ala Ser Ile Leu His
115 120 125

Leu Cys Val Ile Ala Leu Asp Arg Tyr Trp Ala Ile Thr Asp Ala Leu
130 135 140

Glu Tyr Ser Lys Arg Arg Thr Ala Gly His Ala Ala Thr Met Ile Ala
145 150 155 160

Ile Val Trp Ala Ile Ser Ile Cys Ile Ser Ile Pro Pro Leu Phe Trp
165 170 175

Arg Gln Ala Lys Ala Gln Glu Glu Met Ser Asp Cys Leu Val Asn Thr
180 185 190

Ser Gln Ile Ser Tyr Thr Ile Tyr Ser Thr Cys Gly Ala Phe Tyr Ile
195 200 205

Pro Ser Val Leu Leu Ile Ile Leu Tyr Gly Arg Ile Tyr Arg Ala Ala
210 215 220

Arg Asn Arg Ile Leu Asn Pro Pro Ser Leu Tyr Gly Lys Arg Phe Thr
 225 230 235 240

Thr Ala His Leu Ile Thr Gly Ser Ala Gly Ser Ser Leu Cys Ser Leu
 245 250 255

Asn Ser Ser Leu His Glu Gly His Ser His Ser Ala Gly Ser Pro Leu
 260 265 270

Phe Phe Asn His Val Lys Ile Lys Leu Ala Asp Ser Ala Leu Glu Arg
 275 280 285

Lys Arg Ile Ser Ala Ala Arg Glu Arg Lys Ala Lys Lys Ile Leu Gly
 290 295 300

Ile Ile Leu Gly Ala Phe Ile Ile Cys Trp Leu Pro Phe Phe Val Val
 305 310 315 320

Ser Leu Val Leu Pro Ile Cys Arg Asp Ser Cys Trp Ile His Pro Ala
 325 330 335

Leu Phe Asp Phe Phe Thr Trp Leu Gly Tyr Leu Asn Ser Leu Ile Asn
 340 345 350

Pro Ile Ile Tyr Thr Val Phe Asn Glu Glu Phe Arg Gln Ala Phe Gln
 355 360 365

Lys Ile Val Pro Phe Arg Lys Ala Ser
 370 375

<210> 430
 <211> 1098
 <212> DNA
 <213> Homo sapiens

<400> 430
 atgaacatca caaactgtac cacagaggcc agcatggcta taagacccaa gaccatcact 60
 gagaagatgc tcatttgcac gactctggtg gtcacaccca ccctcaccac gttgctgaac 120
 ttggctgtga tcatggctat tggcaccacc aagaagctcc accagcctgc caactaccta 180
 atctgttctc tggcogtgac ggacotcctg gtggcagtg tegtcatgcc cctgagcatc 240
 atctacattg tcatggatcg ctggaagctt gggtaacttc tctgtgaggt gtggctgagt 300
 gtggacatga cctgctgcac ctgctccatc ctccacctct gtgtcattgc cctggacagg 360
 tactgggcca tcaccaatgc tattgaatac gccaggaaga ggacggccaa gagggccgcg 420
 ctgatgatcc ttaccgtctg gaccatctcc attttcatct ccatgcccc tctgttctgg 480
 agaagccacc gccgcctaag cctccccct agtcagtgc ccatccagca cgaccatgtt 540
 atctacacca ttactccac gctgggtgcg ttttatatcc ccttgacttt gatactgatt 600
 ctctattacc ggattttacca cgcgccaaag agcctttacc agaaaagggg atcaagtcgg 660
 cacttaagca acagaagcac agatagccag aattcttttg caagttgtaa acttacacag 720
 actttctgtg tgtctgactt ctccacctca gaccctacca cagagtttga aaagttccat 780
 gcctccatca ggatccccc cttcgacaat gatctagatc acccaggaga acgtcagcag 840
 atctctagca ccagggaacg gaaggcaaaa cgcacccctg ggctgattct ggggtgcattc 900
 attttatcct ggctgccatt tttcatcaaa gagttgattg tgggtctgag catctacacc 960
 gtgtcctcgg aagtggccga ctttctgaag tggctcggtt atgtgaattc tctgatcaac 1020
 cctctgctct atacgagttt taatgaagac ttttaagctgg cttttaaaaa gctcattaga 1080
 tgccgagagc atacttag 1098

<210> 431
 <211> 365
 <212> PRT
 <213> Homo sapiens

<400> 431

Met	Asn	Ile	Thr	Asn	Cys	Thr	Thr	Glu	Ala	Ser	Met	Ala	Ile	Arg	Pro
1				5					10					15	
Lys	Thr	Ile	Thr	Glu	Lys	Met	Leu	Ile	Cys	Met	Thr	Leu	Val	Val	Ile
			20					25					30		
Thr	Thr	Leu	Thr	Thr	Leu	Leu	Asn	Leu	Ala	Val	Ile	Met	Ala	Ile	Gly
		35					40					45			
Thr	Thr	Lys	Lys	Leu	His	Gln	Pro	Ala	Asn	Tyr	Leu	Ile	Cys	Ser	Leu
	50					55					60				
Ala	Val	Thr	Asp	Leu	Leu	Val	Ala	Val	Leu	Val	Met	Pro	Leu	Ser	Ile
65					70					75					80
Ile	Tyr	Ile	Val	Met	Asp	Arg	Trp	Lys	Leu	Gly	Tyr	Phe	Leu	Cys	Glu
				85					90					95	
Val	Trp	Leu	Ser	Val	Asp	Met	Thr	Cys	Cys	Thr	Cys	Ser	Ile	Leu	His
		100						105					110		
Leu	Cys	Val	Ile	Ala	Leu	Asp	Arg	Tyr	Trp	Ala	Ile	Thr	Asn	Ala	Ile
		115					120					125			
Glu	Tyr	Ala	Arg	Lys	Arg	Thr	Ala	Lys	Arg	Ala	Ala	Leu	Met	Ile	Leu
	130					135					140				
Thr	Val	Trp	Thr	Ile	Ser	Ile	Phe	Ile	Ser	Met	Pro	Pro	Leu	Phe	Trp
145					150					155					160
Arg	Ser	His	Arg	Arg	Leu	Ser	Pro	Pro	Pro	Ser	Gln	Cys	Thr	Ile	Gln
			165					170						175	
His	Asp	His	Val	Ile	Tyr	Thr	Ile	Tyr	Ser	Thr	Leu	Gly	Ala	Phe	Tyr
			180					185					190		
Ile	Pro	Leu	Thr	Leu	Ile	Leu	Ile	Leu	Tyr	Tyr	Arg	Ile	Tyr	His	Ala
		195					200					205			
Ala	Lys	Ser	Leu	Tyr	Gln	Lys	Arg	Gly	Ser	Ser	Arg	His	Leu	Ser	Asn
	210					215					220				
Arg	Ser	Thr	Asp	Ser	Gln	Asn	Ser	Phe	Ala	Ser	Cys	Lys	Leu	Thr	Gln
225					230					235					240
Thr	Phe	Cys	Val	Ser	Asp	Phe	Ser	Thr	Ser	Asp	Pro	Thr	Thr	Glu	Phe
			245					250						255	
Glu	Lys	Phe	His	Ala	Ser	Ile	Arg	Ile	Pro	Pro	Phe	Asp	Asn	Asp	Leu
			260					265					270		

20					25					30						
Leu	Ala	Leu	Met	Thr	Thr	Thr	Thr	Ile	Asn	Ser	Leu	Val	Ile	Ala	Ala	Ile
		35						40					45			
Ile	Val	Thr	Arg	Lys	Leu	His	His	Pro	Ala	Asn	Tyr	Leu	Ile	Cys	Ser	
	50					55					60					
Leu	Ala	Val	Thr	Asp	Phe	Leu	Val	Ala	Val	Leu	Val	Met	Pro	Phe	Ser	
	65					70					75				80	
Ile	Val	Tyr	Ile	Val	Arg	Glu	Ser	Trp	Ile	Met	Gly	Gln	Val	Val	Cys	
				85					90						95	
Asp	Ile	Trp	Leu	Ser	Val	Asp	Ile	Thr	Cys	Cys	Thr	Cys	Ser	Ile	Leu	
			100					105					110			
His	Leu	Ser	Ala	Ile	Ala	Leu	Asp	Arg	Tyr	Arg	Ala	Ile	Thr	Asp	Ala	
		115					120					125				
Val	Glu	Tyr	Ala	Arg	Lys	Arg	Thr	Pro	Lys	His	Ala	Gly	Ile	Met	Ile	
	130					135					140					
Thr	Ile	Val	Trp	Ile	Ile	Ser	Val	Phe	Ile	Ser	Met	Pro	Pro	Leu	Phe	
	145					150					155				160	
Trp	Arg	His	Gln	Gly	Thr	Ser	Arg	Asp	Asp	Glu	Cys	Ile	Ile	Lys	His	
			165						170					175		
Asp	His	Ile	Val	Ser	Thr	Ile	Tyr	Ser	Thr	Phe	Gly	Ala	Phe	Tyr	Ile	
			180					185					190			
Pro	Leu	Ala	Leu	Ile	Leu	Ile	Leu	Tyr	Tyr	Lys	Ile	Tyr	Arg	Ala	Ala	
		195					200					205				
Lys	Thr	Leu	Tyr	His	Lys	Arg	Gln	Ala	Ser	Arg	Ile	Ala	Lys	Glu	Glu	
	210					215					220					
Val	Asn	Gly	Gln	Val	Leu	Leu	Glu	Ser	Gly	Glu	Lys	Ser	Thr	Lys	Ser	
	225					230					235				240	
Val	Ser	Thr	Ser	Tyr	Val	Leu	Glu	Lys	Ser	Leu	Ser	Asp	Pro	Ser	Thr	
			245						250				255			
Asp	Phe	Asp	Lys	Ile	His	Ser	Thr	Val	Arg	Ser	Leu	Arg	Ser	Glu	Phe	
			260					265					270			
Lys	His	Glu	Lys	Ser	Trp	Arg	Arg	Gln	Lys	Ile	Ser	Gly	Thr	Arg	Glu	
		275				280						285				
Arg	Lys	Ala	Lys	Thr	Thr	Leu	Gly	Leu	Ile	Leu	Gly	Ala	Phe	Val	Ile	
	290					295					300					
Cys	Trp	Leu	Pro	Phe	Phe	Val	Lys	Glu	Leu	Val	Val	Asn	Val	Cys	Asp	
	305					310					315				320	
Lys	Cys	Lys	Ile	Ser	Glu	Glu	Met	Ser	Asn	Phe	Leu	Ala	Trp	Leu	Gly	

335

Asp Phe Lys Lys Ala Phe Gln Lys Leu Val Arg Cys Arg Cys
355 360 365

<400>	434						
atggctctct	cttacagagt	gtctgaactt	caaagcacia	ttcctgagca	cattttgcag	60	
agcacctttg	ttcacggttat	ctcttctaac	tggtctggat	tacagacaga	atcaatacca	120	
gaggaaatga	aacagattgt	tgaggaacag	ggaaataaac	tgcactgggc	agctcttctg	180	
atactcatgg	tgataatacc	cacaattggg	ggaaataccc	ttgttattct	ggctgtttca	240	
ctggagaaga	agctgcagta	tgctactaat	tactttctaa	tgtccttggc	ggtggctgat	300	
ttgctggttg	gattgtttgt	gatgccaa	gcctcttga	caataatgtt	tgaggctatg	360	
tggccctcc	cacttgttct	atgtcctgcc	tggttatttc	ttgacgttct	cttttcaacc	420	
gcatccatca	tgcactcttg	tgcattttca	gtggatcgtt	acatagccat	caaaaagcca	480	
atccaggcca	atcaatataa	ctcacgggct	acagatttca	tcaagattac	agtgggtgtg	540	
ttaatgttcaa	taggcattgc	cattccagtc	cctattaaag	ggatagagac	tgatgtggac	600	
aaccctaaaca	atatcacttg	tgtgctgaca	aaggaaagct	ttggcgattt	catgctcttt	660	
ggctcactgg	ctgccttctt	cacacctctt	gcaattatga	ttgtcaccta	ctttctcact	720	
atccatgctt	tacagaagaa	ggcttactta	gtcaaaaaca	agccacctca	acgcctaaca	780	
tggttgactg	tgtctacagt	tttccaaagg	gatgaaacac	cttgctcgtc	accggaaaag	840	
gtggcaatgc	tggatgggtc	tcgaaaggac	aaggctctgc	ccaactcagg	tgatgaaaca	900	
cttatgcgaa	gaacatccac	aattgggaaa	aagtcagtg	agaccatttc	caacgaacag	960	
agagccaaaa	aggctcctagg	gattgtgttt	ttcctctttt	tgottatgtg	gtgtcccttc	1020	
tttattacaa	atataacttt	agttttatgt	gattcctgta	accaaactac	tctccaaatg	1080	
ctcctggaga	tatttgtgtg	gataggctat	gtttcctcag	gagtgaatcg	tttgggtctac	1140	
accctcttca	ataagacatt	tcgggatgca	tttggccgat	atatcacctc	caattaccgg	1200	
gccacaaagt	cagtaaaaaa	tttcagaaaa	cgtccagta	agactactt	ccggaatcca	1260	
atggcagaga	actctaagtt	tctcaagaaa	catggaattc	gaaatgggat	taaccctgcc	1320	
atgtaccaga	gtccaatgag	gctccgaagt	tcaaccattc	agtcttcato	aatcattcta	1380	
ctagatacgc	ttctcctcac	tgaaaatgaa	ggtgacaaaa	ctgaagagca	agttagttat	1440	
gtatag						1446	

<400> 435
Met Ala Leu Ser Tyr Arg Val Ser Glu Leu Gln Ser Thr Ile Pro Glu
1 5 10 15
His Ile Leu Gln Ser Thr Phe Val His Val Ile Ser Ser Asn Trp Ser
20 25 30
Gly Leu Gln Thr Glu Ser Ile Pro Glu Glu Met Lys Gln Ile Val Glu
35 40 45

Cys Asn Gln Thr Thr Leu Gln Met Leu Leu Glu Ile Phe Val Trp Ile
 355 360 365
 Gly Tyr Val Ser Ser Gly Val Asn Pro Leu Val Tyr Thr Leu Phe Asn
 370 375 380
 Lys Thr Phe Arg Asp Ala Phe Gly Arg Tyr Ile Thr Cys Asn Tyr Arg
 385 390 395 400
 Ala Thr Lys Ser Val Lys Thr Leu Arg Lys Arg Ser Ser Lys Ile Tyr
 405 410 415
 Phe Arg Asn Pro Met Ala Glu Asn Ser Lys Phe Phe Lys Lys His Gly
 420 425 430
 Ile Arg Asn Gly Ile Asn Pro Ala Met Tyr Gln Ser Pro Met Arg Leu
 435 440 445
 Arg Ser Ser Thr Ile Gln Ser Ser Ser Ile Ile Leu Leu Asp Thr Leu
 450 455 460
 Leu Leu Thr Glu Asn Glu Gly Asp Lys Thr Glu Glu Gln Val Ser Tyr
 465 470 475 480
 Val
 <210> 436
 <211> 387
 <212> PRT
 <213> Homo sapiens
 <400> 436
 Met Asp Lys Leu Asp Ala Asn Val Ser Ser Glu Glu Gly Phe Gly Ser
 1 5 10 15
 Val Glu Lys Val Val Leu Leu Thr Phe Leu Ser Thr Val Ile Leu Met
 20 25 30
 Ala Ile Leu Gly Asn Leu Leu Val Met Val Ala Val Cys Trp Asp Arg
 35 40 45
 Gln Leu Arg Lys Ile Lys Thr Asn Tyr Phe Ile Val Ser Leu Ala Phe
 50 55 60
 Ala Asp Leu Leu Val Ser Val Leu Val Met Pro Phe Gly Ala Ile Glu
 65 70 75 80
 Leu Val Gln Asp Ile Trp Ile Tyr Gly Glu Val Phe Cys Leu Val Arg
 85 90 95
 Thr Ser Leu Asp Val Leu Leu Thr Thr Ala Ser Ile Phe His Leu Cys
 100 105 110
 Cys Ile Ser Leu Asp Arg Tyr Tyr Ala Ile Cys Cys Gln Pro Leu Val
 115 120 125

[illegible]

```
<210> 437
<211> 1164
<212> DNA
<213> Homo sapiens
```

<400> 437

```

atggacaaac ttgatgctaa tgtgagttct gaggagggtt tcgggtcagt ggagaaggtg 60
gtgctgctca cgtttctctc gacggttatc ctgatggcca tcttggggaa cctgctgggtg 120
atggtggctg tgtgctggga caggcagctc aggaaaataa aaacaaatta tttcattgta 180
tctcttgctt ttgcggtatc gctggtttcg gtgctggtga tgccctttgg tgccattgag 240
ctggttcaag acatctggat ttatggggag gtgttttgtc ttgttcggac atctctggac 300
gtcctgctca caacggcatc gattttttcac ctgtgctgca tttctctgga taggtattac 360
gccatctgct gccagccttt ggtctatagg aacaagatga cccctctgcg catcgcata 420
atgctgggag gctgctgggt catccccacg tttattttctt ttctccctat aatgcaaggc 480
tggaataaca ttggcataat tgatttgata gaaaagagga agttcaacca gaactctaac 540
tctacgtact gtgtcttcat ggtcaacaag ccctacgcca tcacctgctc tgtggtggcc 600
ttctacatcc catttctcct catggtgctg gcctattacc gcatctatgt cacagctaag 660
gagcatgccc atcagatcca gatgttataa cgggcaggag cctcctccga gagcaggcct 720
cagtcggcag accagcatag cactcatcgc atgaggacag agaccaaagc aaagaagacc 780
ctgtgcatca tcatgggttg cttctgcctc tgctgggcac cattctttgt caccaatatt 840
gtggatcctt tcatagacta cactgtccct gggcagggtg ggactgcttt cctctggctc 900
ggctatatca attccgggtt gaaccctttt ctctacgcct tcttgaataa gtcttttaga 960
cgtgccttcc tcatcatcct ctgctgtgat gatgagcgct accgaagacc ttccattctg 1020
ggccagactg tcccttggtc aaccacaacc attaatggat ccacacatgt actaagggtac 1080
accgttctgc acaggggaca tcatcaggaa ctcgagaaac tgcccataca caatgaccca 1140
gaatccctgg aatcatgctt ctga                                     1164

```

<210> 438

<211> 1167

<212> DNA

<213> Homo sapiens

<400> 438

```

atggacaaac ttgatgctaa tgtgagttct gaggagggtt tcgggtcagt ggagaaggtg 60
gtgctgctca cgtttctctc gacggttatc ctgatggcca tcttggggaa cctgctgggtg 120
atggtggctg tgtgctggga caggcagctc aggaaaataa aaacaaatta tttcattgta 180
tctcttgctt ttgcggtatc gctggtttcg gtgctggtga tgccctttgg tgccattgag 240
ctggttcaag acatctggat ttatggggag gtgttttgtc ttgttcggac atctctggac 300
gtcctgctca caacggcatc gattttttcac ctgtgctgca tttctctgga taggtattac 360
gccatctgct gccagccttt ggtctatagg aacaagatga cccctctgcg catcgcata 420
atgctgggag gctgctgggt catccccacg tttattttctt ttctccctat aatgcaaggc 480
tggaataaca ttggcataat tgatttgata gaaaagagga agttcaacca gaactctaac 540
tctacgtact gtgtcttcat ggtcaacaag ccctacgcca tcacctgctc tgtggtggcc 600
ttctacatcc catttctcct catggtgctg gcctattacc gcatctatgt cacagctaag 660
gagcatgccc atcagatcca gatgttataa cgggcaggag cctcctccga gagcaggcct 720
cagtcggcag accagcatag cactcatcgc atgaggacag agaccaaagc aaagaagacc 780
ctgtgcatca tcatgggttg cttctgcctc tgctgggcac cattctttgt caccaatatt 840
gtggatcctt tcatagacta cactgtccct gggcagggtg ggactgcttt cctctggctc 900
ggctatatca attccgggtt gaaccctttt ctctacgcct tcttgaataa gtcttttaga 960
cgtgccttcc tcatcatcct ctgctgtgat gatgagcgct accgaagacc ttccattctg 1020
ggccagactg tcccttggtc aaccacaacc attaatggat ccacacatgt actaagggtac 1080
gcagtggagt gtggtggcca gtgggagagt cagtgtcacc cgccagcaac ttctcctttg 1140
gtggctgctc agcccagtga cacttag                                     1167

```

<210> 439

<211> 388

<212> PRT

<213> Homo sapiens

a		b		c		d		e		f		g		h		i		j		k		l		m		n		o		p		q		r		s		t		u		v		w		x		y		z	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30</																						

128

Ser Gly Leu Asn Pro Phe Leu Tyr Ala Phe Leu Asn Lys Ser Phe Arg
 305 310 315 320

Arg Ala Phe Leu Ile Ile Leu Cys Cys Asp Asp Glu Arg Tyr Arg Arg
 325 330 335

Pro Ser Ile Leu Gly Gln Thr Val Pro Cys Ser Thr Thr Thr Ile Asn
 340 345 350

Gly Ser Thr His Val Leu Arg Asp Ala Val Glu Cys Gly Gly Gln Trp
 355 360 365

Glu Ser Gln Cys His Pro Pro Ala Thr Ser Pro Leu Val Ala Ala Gln
 370 375 380

Pro Ser Asp Thr
 385

<210> 440
 <211> 1152
 <212> DNA
 <213> Homo sapiens

<400> 440
 atggacaaac ttgatgctaa tgtgagttct gaggagggtt tcgggtcagt ggagaagggtg 60
 gtgctgctca cgtttctctc gacggttatt ctgatggcca tcttggggaa cctgctgggtg 120
 atggtggctg tgtgctggga caggcagctc aggaaaataa aaacaaatta tttcattgta 180
 tctcttgctt ttgcggatct gctgggttctg gtgctgggtg tgcccttttg tgccattgag 240
 ctggttcaag acatctggat ttatggggag gtgttttgtc ttgttcggac atctctggac 300
 gtcctgctca caacggcatc gattttttcac ctgtgctgca tttctctgga taggtattac 360
 gccatctgct gccagccttt ggtctatagg aacaagatga cccctctgcg catcgcat 420
 atgctgggag gctgctgggt catccccacg tttatttctt ttctccctat aatgcaaggc 480
 tggaataaca ttggcataat tgatttgata gaaaagagga agttcaacca gaactctaac 540
 tctacgtact gtgtcttcat ggtcaacaag ccctacgcca tcacctgctc tgtgggtggc 600
 ttctacatcc catttctcct catggtgctg gcctattacc gcctctatgt cacagctaag 660
 gagcatgcc atcagatcca gatgttacaa cgggcaggag cctcctccga gagcaggcct 720
 cagtcggcag accagcatag cactcatcgc atgaggacag agaccaaagc aaagaagacc 780
 ctgtgcatca tcatgggttg cttctgcctc tgctgggcac cattctttgt caccaatatt 840
 gtggatcctt tcatagacta cactgtccct gggcagggtg ggactgcttt cctctggctc 900
 ggctatatca attcggggtt gaaccctttt ctctacgcct tcttgaataa gtcttttaga 960
 cgtgccttcc tcatcatcct ctgctgtgat gatgagcgct accgaagacc ttccattctg 1020
 ggccagactg tcccttggtc aaccacaacc attaatggat ccacacatgt actaagttct 1080
 ggaactgaaa ccgacagaag aaactttgga ataaggaaga gaagattgac caaaccatcc 1140
 taatgccaaa aa 1152

<210> 441
 <211> 380
 <212> PRT
 <213> Homo sapiens

<400> 441
 Met Asp Lys Leu Asp Ala Asn Val Ser Ser Glu Glu Gly Phe Gly Ser
 1 5 10 15

Val	Glu	Lys	Val	Val	Leu	Leu	Thr	Phe	Leu	Ser	Thr	Val	Ile	Leu	Met	20	25	30	
Ala	Ile	Leu	Gly	Asn	Leu	Leu	Val	Met	Val	Ala	Val	Cys	Trp	Asp	Arg	35	40	45	
Gln	Leu	Arg	Lys	Ile	Lys	Thr	Asn	Tyr	Phe	Ile	Val	Ser	Leu	Ala	Phe	50	55	60	
Ala	Asp	Leu	Leu	Val	Ser	Val	Leu	Val	Met	Pro	Phe	Gly	Ala	Ile	Glu	65	70	75	80
Leu	Val	Gln	Asp	Ile	Trp	Ile	Tyr	Gly	Glu	Val	Phe	Cys	Leu	Val	Arg	85	90	95	
Thr	Ser	Leu	Asp	Val	Leu	Leu	Thr	Thr	Ala	Ser	Ile	Phe	His	Leu	Cys	100	105	110	
Cys	Ile	Ser	Leu	Asp	Arg	Tyr	Tyr	Ala	Ile	Cys	Cys	Gln	Pro	Leu	Val	115	120	125	
Tyr	Arg	Asn	Lys	Met	Thr	Pro	Leu	Arg	Ile	Ala	Leu	Met	Leu	Gly	Gly	130	135	140	
Cys	Trp	Val	Ile	Pro	Thr	Phe	Ile	Ser	Phe	Leu	Pro	Ile	Met	Gln	Gly	145	150	155	160
Trp	Asn	Asn	Ile	Gly	Ile	Ile	Asp	Leu	Ile	Glu	Lys	Arg	Lys	Phe	Asn	165	170	175	
Gln	Asn	Ser	Asn	Ser	Thr	Tyr	Cys	Val	Phe	Met	Val	Asn	Lys	Pro	Tyr	180	185	190	
Ala	Ile	Thr	Cys	Ser	Val	Val	Ala	Phe	Tyr	Ile	Pro	Phe	Leu	Leu	Met	195	200	205	
Val	Leu	Ala	Tyr	Tyr	Arg	Ile	Tyr	Val	Thr	Ala	Lys	Glu	His	Ala	His	210	215	220	
Gln	Ile	Gln	Met	Leu	Gln	Arg	Ala	Gly	Ala	Ser	Ser	Glu	Ser	Arg	Pro	225	230	235	240
Gln	Ser	Ala	Asp	Gln	His	Ser	Thr	His	Arg	Met	Arg	Thr	Glu	Thr	Lys	245	250	255	
Ala	Lys	Lys	Thr	Leu	Cys	Ile	Ile	Met	Gly	Cys	Phe	Cys	Leu	Cys	Trp	260	265	270	
Ala	Pro	Phe	Phe	Val	Thr	Asn	Ile	Val	Asp	Pro	Phe	Ile	Asp	Tyr	Thr	275	280	285	
Val	Pro	Gly	Gln	Val	Trp	Thr	Ala	Phe	Leu	Trp	Leu	Gly	Tyr	Ile	Asn	290	295	300	
Ser	Gly	Leu	Asn	Pro	Phe	Leu	Tyr	Ala	Phe	Leu	Asn	Lys	Ser	Phe	Arg	305	310	315	320

Arg Ala Phe Leu Ile Ile Leu Cys Cys Asp Asp Glu Arg Tyr Arg Arg
325 330 335

Pro Ser Ile Leu Gly Gln Thr Val Pro Cys Ser Thr Thr Thr Ile Asn
340 345 350

Gly Ser Thr His Val Leu Ser Ser Gly Thr Glu Thr Asp Arg Arg Asn
355 360 365

Phe Gly Ile Arg Lys Arg Arg Leu Thr Lys Pro Ser
370 375 380

<210> 442
<211> 1083
<212> DNA
<213> Homo sapiens

<400> 442
atggacaaac ttgatgctaa tgtgagttct gaggaggggt tcgggtcagt ggagaaggtg 60
gtgctgctca cgtttctctc gacggttatc ctgatggcca tcttggggaa cctgctggtg 120
atggtggctg tgtgctggga caggcagctc aggaaaataa aaacaaatta tttcattgta 180
tctcttgctt ttgcggatct gctgggttct gtgctggtga tgccctttgg tgccattgag 240
ctgggttcaag acatctggat ttatggggag gtgttttctc ttgttcggac atctctggac 300
gtcctgctca caacggcatc gatttttcac ctgtgctgca tttctctgga taggtattac 360
gccatctgct gccagccttt ggtctatagg aacaagatga cccctctgag catcgcata 420
atgctgggag gctgctgggt catccccacg tttatttctt ttctccctat aatgcaaggc 480
tggaataaca ttggcataat tgatttgata gaaaagagga agttcaacca gaactctaac 540
tctacgtact gtgtcttcat ggtcaacaag ccctacgcca tcacctgctc tgtggtggcc 600
ttctacatcc catttctcct catggtgctg gcctattacc gcatctatgt cacagctaag 660
gagcatgccc atcagatcca gatgttacia cgggcaggag cctcctccga gagcaggcct 720
cagtcggcag accagcatag cactcatcgc atgaggacag agaccaaagc aaagaagacc 780
ctgtgcatca tcatgggttg cttctgcctc tgctgggcac cattctttgt caccaatatt 840
gtggatcctt tcatagacta cactgtccct gggcagggtg ggactgcttt cctctggctc 900
ggctatatca attccgggtt gaaccctttt ctctacgcct tcttgaataa gtcttttaga 960
cgtgccttcc tcatcatcct ctgctgtgat gatgagcgct accgaagacc ttccattctg 1020
ggccagactg tcccttgctc aaccacaacc attaatggat ccacacatgt actaagattt 1080
tga 1083

<210> 443
<211> 360
<212> PRT
<213> Homo sapiens

<400> 443
Met Asp Lys Leu Asp Ala Asn Val Ser Ser Glu Glu Gly Phe Gly Ser
1 5 10 15

Val Glu Lys Val Val Leu Leu Thr Phe Leu Ser Thr Val Ile Leu Met
20 25 30

Ala Ile Leu Gly Asn Leu Leu Val Met Val Ala Val Cys Trp Asp Arg
35 40 45

Gln Leu Arg Lys Ile Lys Thr Asn Tyr Phe Ile Val Ser Leu Ala Phe
50 55 60

Table 1. Demographic characteristics of the study population	
Age (years)	65.0 ± 10.0
Gender	
Male	50 (50.0%)
Female	50 (50.0%)
Education (years)	12.0 ± 2.0
Marital status	
Married	40 (80.0%)
Single	10 (20.0%)
Occupation	
Retired	30 (60.0%)
Unemployed	20 (40.0%)
Income (USD/month)	1,000.0 ± 200.0
Health status	
Good	30 (60.0%)
Poor	20 (40.0%)
Comorbidities	
Hypertension	15 (30.0%)
Diabetes	10 (20.0%)
Cholesterol	12 (24.0%)
Arthritis	8 (16.0%)
Other	5 (10.0%)
Medication	
Yes	25 (50.0%)
No	25 (50.0%)
Smoking status	
Smoker	10 (20.0%)
Non-smoker	40 (80.0%)
Alcohol consumption	
Yes	5 (10.0%)
No	45 (90.0%)

atggacaaac	ttgatgtctaa	tgtgagttct	gaggagggtt	tcggttcagt	ggagaaggtg	60
gtgtgtctca	cgtttctctc	gacggttata	ctgatggcca	tcttggggaa	cctgctgggtg	120
ctgtgtgctg	tgtgctggga	caggcagctc	aggaaaataa	aaacaaatta	tttcattgta	180
tctcttgctt	ttgcggatct	gctggtttcg	gtgctggtga	tgccttttgg	tgccattgag	240
ctggttcaag	acatctggat	ttatggggag	gtgttttgtc	ttgttcggac	atctctggac	300
gtcctgtctc	caacggcatc	gatttttcac	ctgtgctgca	tttctctgga	taggtattac	360
gccatctgct	gccagccttt	ggtctatagg	aacaagatga	cccctctgcg	catcgcatta	420
atgctgggag	gctgctgggt	catccccacg	tttatttctt	ttctccctat	aatgcaaggc	480
tggaataaca	ttggcataat	tgatttgata	gaaaagagga	agttcaacca	gaactctaac	540
tctacgtact	gtgtcttcat	ggtcaacaag	ccctacgcca	tcacctgctc	tgtggtggcc	600
ttctacatcc	catttctcct	catggtgctg	gcctattacc	gcattctatgt	cacagctaag	660
gagcatgccc	atcagatcca	gatgttacaa	cgggcaggag	cctcctccga	gagcaggcct	720
cagtggcgag	accagcatag	cactcatcgc	atgaggacag	agaccaaagc	aaagaagacc	780
ctgtgcatca	tcatgggttg	cttctgcctc	tgctgggcac	cattcttttg	caccaattatt	840
gtggatcctt	tcatagacta	cactgtccct	gggcaggtgt	ggactgtctt	cctctggctc	900
ggctatatca	attccgggtt	gaaccctttt	ctctacgcct	tcttgaataa	gtctttttaga	960
cgtgccttcc	tcatcatcct	ctgctgtgat	gatgagcgct	accgaagacc	ttccattctg	1020
ggccagactg	tcccttgttc	aaccacaacc	attaatggat	ccacacatgt	actaagtggc	1080
tgttcccttg	tctccagctt	cctcctgctc	ttctgcaata	gaccagttcc	tgtctaa	1137

<400> 445

Val Glu Lys Val Val Leu Leu Thr Phe Leu Ser Thr Val Ile Leu Met
20 25 30

Gln Leu Arg Lys Ile Lys Thr Asn Tyr Phe Ile Val Ser Leu Ala Phe
50 55 60

Leu Val Gln Asp Ile Trp Ile Tyr Gly Glu Val Phe Cys Leu Val Arg
85 90 95

Thr Ser Leu Asp Val Leu Leu Thr Thr Ala Ser Ile Phe His Leu Cys
100 105 110

133

115	120	125
Tyr Arg Asn Lys Met Thr Pro Leu Arg Ile Ala Leu Met Leu Gly Gly		
130	135	140
Cys Trp Val Ile Pro Thr Phe Ile Ser Phe Leu Pro Ile Met Gln Gly		
145	150	155
Trp Asn Asn Ile Gly Ile Ile Asp Leu Ile Glu Lys Arg Lys Phe Asn		
	165	170
Gln Asn Ser Asn Ser Thr Tyr Cys Val Phe Met Val Asn Lys Pro Tyr		
	180	185
Ala Ile Thr Cys Ser Val Val Ala Phe Tyr Ile Pro Phe Leu Leu Met		
	195	200
Val Leu Ala Tyr Tyr Arg Ile Tyr Val Thr Ala Lys Glu His Ala His		
	210	215
Gln Ile Gln Met Leu Gln Arg Ala Gly Ala Ser Ser Glu Ser Arg Pro		
	225	230
Gln Ser Ala Asp Gln His Ser Thr His Arg Met Arg Thr Glu Thr Lys		
	245	250
Ala Lys Lys Thr Leu Cys Ile Ile Met Gly Cys Phe Cys Leu Cys Trp		
	260	265
Ala Pro Phe Phe Val Thr Asn Ile Val Asp Pro Phe Ile Asp Tyr Thr		
	275	280
Val Pro Gly Gln Val Trp Thr Ala Phe Leu Trp Leu Gly Tyr Ile Asn		
	290	295
Ser Gly Leu Asn Pro Phe Leu Tyr Ala Phe Leu Asn Lys Ser Phe Arg		
	305	310
Arg Ala Phe Leu Ile Ile Leu Cys Cys Asp Asp Glu Arg Tyr Arg Arg		
	325	330
Pro Ser Ile Leu Gly Gln Thr Val Pro Cys Ser Thr Thr Thr Ile Asn		
	340	345
Gly Ser Thr His Val Leu Ser Gly Cys Ser Pro Val Ser Ser Phe Leu		
	355	360
Leu Leu Phe Cys Asn Arg Pro Val Pro Val		
	370	375

<210> 446
 <211> 1074
 <212> DNA
 <213> Homo sapiens
 <400> 446

```

atggatttac cagtgaacct aacctccttt tccctctcca cccctcccc tttggagacc 60
aaccacagcc tcggcaaaga cgacctgcgc ccagctgcgc cctgctctc ggtcttcgga 120
gtgcttattc tcaccttgcg gggctttctg gtggcgcgga cgttcgctg gaacctgctg 180
gtgctggcga ccacctccg tgtacgcacc ttccaccgag tgccccacaa cctgggtggca 240
tccatggccg tctcgatgt cctggtggcc ggcgtggtca tgccgctgag cctggtgcat 300
gagctgtccg ggcgccgctg gcagctaggt cggaggctgt gccagctttg gatcgctgct 360
gacgtgcttt gctgcacggc cagcatctgg aacgtgacgg ccatagccct ggaccgctac 420
tgggtccatc cgcgccacat ggaatacacg ctccgcaccc gcaagtgcgt ctccaacgtc 480
atgatcgcg ctcacctggg actctccgct gtcattctctc tggccccgct gctttttggc 540
tggggagaga cgtactctga gggcagcgag gaggcgagg taagccgaga gccttcctac 600
gccgtgttct ccaccgtagg cgcttcttac ctgcccgtct gtgtggtgct cttcgtgtac 660
tggaagatct acaaggctgc caagtccgc gtgggctcca ggaagaccaa tagcgtctca 720
cccatatccg aagctgtgga ggtgaaggac tctgccaaac agccccagat ggtgttcacg 780
gtccgccacg ccaccgtcac cttccagcca gaaggggaca cgtggcgga gcagaaggag 840
cagcgggcca agctcatggt gggcatcctc attggcgtgt tgcgtctctg ctggatcccc 900
ttctttctca ccgagctcat cagtccctc tgctcctgtg acatccccgc catctgaaa 960
agcatcttcc tgtggcttgg ctactccaac tccttcttta acccctgat ctatacggt 1020
ttcaacaaga actacaacag cgccttcaag aacttctttt ctaggcaaca ctga 1074

```

<210> 447
 <211> 357
 <212> PRT
 <213> Homo sapiens

<400> 447

Met	Asp	Leu	Pro	Val	Asn	Leu	Thr	Ser	Phe	Ser	Leu	Ser	Thr	Pro	Ser
1				5					10					15	
Pro	Leu	Glu	Thr	Asn	His	Ser	Leu	Gly	Lys	Asp	Asp	Leu	Arg	Pro	Ser
			20					25					30		
Ser	Pro	Leu	Leu	Ser	Val	Phe	Gly	Val	Leu	Ile	Leu	Thr	Leu	Leu	Gly
		35					40					45			
Phe	Leu	Val	Ala	Ala	Thr	Phe	Ala	Trp	Asn	Leu	Leu	Val	Leu	Ala	Thr
	50					55					60				
Ile	Leu	Arg	Val	Arg	Thr	Phe	His	Arg	Val	Pro	His	Asn	Leu	Val	Ala
	65				70					75					80
Ser	Met	Ala	Val	Ser	Asp	Val	Leu	Val	Ala	Ala	Leu	Val	Met	Pro	Leu
				85					90					95	
Ser	Leu	Val	His	Glu	Leu	Ser	Gly	Arg	Arg	Trp	Gln	Leu	Gly	Arg	Arg
		100						105					110		
Leu	Cys	Gln	Leu	Trp	Ile	Ala	Cys	Asp	Val	Leu	Cys	Cys	Thr	Ala	Ser
	115						120					125			
Ile	Trp	Asn	Val	Thr	Ala	Ile	Ala	Leu	Asp	Arg	Tyr	Trp	Ser	Ile	Thr
	130					135					140				
Arg	His	Met	Glu	Tyr	Thr	Leu	Arg	Thr	Arg	Lys	Cys	Val	Ser	Asn	Val
	145				150					155					160
Met	Ile	Ala	Leu	Thr	Trp	Ala	Leu	Ser	Ala	Val	Ile	Ser	Leu	Ala	Pro


```

aggacccac gccaggggt ggagtctgct gacagcaggc gtctagccac gaagcacagc 780
aggaaggccc tgaaggccaa gctgacgctg ggcacccctgc tgggcatgtt ctttgtgacc 840
tggttgccct tctttgtggc caacatagtc caggccgtgt gcgactgcat ctcccaggc 900
ctcttcgatg tcttcacatg gctgggttac tgtaacagca ccatgaaccc catcatctac 960
ccactcttca tgcgggactt caagcgggcg ctgggcaggt tcttgccatg tccacgctgt 1020
ccccgggagc gccaggccag cctggcctcg ccatcactgc gcacctctca cagcggcccc 1080
cggcccggcc ttagcctaca gcagggtgctg ccgctgcccc tgcgcgcgga ctcagattcg 1140
gactcagacg caggctcagg cggctcctcg ggcctgcggc tcacggccca gctgctgctt 1200
cctggcgagg ccaccagga cccccgctg cccaccaggg ccgctgccgc cgtcaatttc 1260
ttcaacatcg accccgcgga gcccgagctg cggccgcgcat cacttggcat cccacgaac 1320
tga                                     1323

```

<210> 449

<211> 440

<212> PRT

<213> Homo sapiens

<400> 449

```

Met Val Pro Glu Pro Gly Pro Thr Ala Asn Ser Thr Pro Ala Trp Gly
  1              5              10              15

Ala Gly Pro Pro Ser Ala Pro Gly Gly Ser Gly Trp Val Ala Ala Ala
      20              25              30

Leu Cys Val Val Ile Ala Leu Thr Ala Ala Ala Asn Ser Leu Leu Ile
      35              40              45

Ala Leu Ile Cys Thr Gln Pro Ala Leu Arg Asn Thr Ser Asn Phe Phe
      50              55              60

Leu Val Ser Leu Phe Thr Ser Asp Leu Met Val Gly Leu Val Val Met
      65              70              75              80

Pro Pro Ala Met Leu Asn Ala Leu Tyr Gly Arg Trp Val Leu Ala Arg
      85              90              95

Gly Leu Cys Leu Leu Trp Thr Ala Phe Asp Val Met Cys Cys Ser Ala
      100             105             110

Ser Ile Leu Asn Leu Cys Leu Ile Ser Leu Asp Arg Tyr Leu Leu Ile
      115             120             125

Leu Ser Pro Leu Arg Tyr Lys Leu Arg Met Thr Pro Leu Arg Ala Leu
      130             135             140

Ala Leu Val Leu Gly Ala Trp Ser Leu Ala Ala Leu Ala Ser Phe Leu
      145             150             155             160

Pro Leu Leu Leu Gly Trp His Glu Leu Gly His Ala Arg Pro Pro Val
      165             170             175

Pro Gly Gln Cys Arg Leu Leu Ala Ser Leu Pro Phe Val Leu Val Ala
      180             185             190

Ser Gly Leu Thr Phe Phe Leu Pro Ser Gly Ala Ile Cys Phe Thr Tyr
      195             200             205

```

Cys Arg Ile Leu Leu Ala Ala Arg Lys Gln Ala Val Gln Val Ala Ser
 210 215 220

Leu Thr Thr Gly Met Ala Ser Gln Ala Ser Glu Thr Leu Gln Val Pro
 225 230 235 240

Arg Thr Pro Arg Pro Gly Val Glu Ser Ala Asp Ser Arg Arg Leu Ala
 245 250 255

Thr Lys His Ser Arg Lys Ala Leu Lys Ala Lys Leu Thr Leu Gly Ile
 260 265 270

Leu Leu Gly Met Phe Phe Val Thr Trp Leu Pro Phe Phe Val Ala Asn
 275 280 285

Ile Val Gln Ala Val Cys Asp Cys Ile Ser Pro Gly Leu Phe Asp Val
 290 295 300

Leu Thr Trp Leu Gly Tyr Cys Asn Ser Thr Met Asn Pro Ile Ile Tyr
 305 310 315 320

Pro Leu Phe Met Arg Asp Phe Lys Arg Ala Leu Gly Arg Phe Leu Pro
 325 330 335

Cys Pro Arg Cys Pro Arg Glu Arg Gln Ala Ser Leu Ala Ser Pro Ser
 340 345 350

Leu Arg Thr Ser His Ser Gly Pro Arg Pro Gly Leu Ser Leu Gln Gln
 355 360 365

Val Leu Pro Leu Pro Leu Pro Pro Asp Ser Asp Ser Asp Ser Asp Ala
 370 375 380

Gly Ser Gly Gly Ser Ser Gly Leu Arg Leu Thr Ala Gln Leu Leu Leu
 385 390 395 400

Pro Gly Glu Ala Thr Gln Asp Pro Pro Leu Pro Thr Arg Ala Ala Ala
 405 410 415

Ala Val Asn Phe Phe Asn Ile Asp Pro Ala Glu Pro Glu Leu Arg Pro
 420 425 430

His Pro Leu Gly Ile Pro Thr Asn
 435 440

<210> 450
 <211> 1379
 <212> DNA
 <213> Homo sapiens

<400> 450
 atgatggacg ttaacagcag cggccgcccc gacctctacg ggcacctccg ctctttcctt 60
 ctgccagaag tggggcgcg gctgcccacg ttgagccccg acggtggcgc cgacccggtc 120
 gcgggctcct gggcgccgca cctgctgagc gaggtgacag ccagcccggc gccacctgg 180
 gacgcgcccc cggacaatgc ctccggctgt ggggaacaga tcaactacgg cagagtcgag 240

```

aaagttgtga tcggctccat cctgacgctc atcacgctgc tgacgatcgc gggcaactgc 300
ctgggtggtga tctccgtgtg cttcgtcaag aagctccgcc agccctccaa ctacctgac 360
gtgtccctgg cgctggccga cctctcggtg gctgtggcgg tcatgccctt cgtcagcgtc 420
accgacctca tcggggggcaa gtggatcttt ggacactttt tctgtaatgt cttcatcgcc 480
atggacgtca tgtgctgcac ggcctcgatc atgaccctgt gcgtgatcag cattgacagg 540
taccttggga tcacaaggcc cctcacatac cctgtgaggg agaatgggaa atgcatggcg 600
aagatgattc tctccgtctg gcttctctcc gcctccatca ccttacctcc actctttgga 660
tgggctcaga atgtaaatga tgataagggtg tgcttgatca gccaggactt tggctatacg 720
atttactcta ccgcagtggc attttatata cccatgtccg tcatgctttt catgtactac 780
cagatttaca aggctgccag gaagagtgtc gccaaacaca agtttcctgg cttccctcga 840
gtggagccag acagcgtcat cgccctgaat ggcatagtga agctccagaa ggaggtggaa 900
gagtggtcaa acctttcgag actcctcaag catgaaagga aaaacatctc catctttaag 960
cgagaacaga aagcaaagac caccctgggg atcatcgctg gggcctttac cgtgtgctgg 1020
ctgccatttt tctcctctc gacagccaga cccttcattc gtggcacttc ctgcagctgc 1080
atcccactgt ggggtggagag gacatttctg ttgctagggt atgcaaactc tctcattaac 1140
ccttttatat atgccttctt caaccgggac ctgaggacca cctatcgcat cctgctccag 1200
tgccagtacc ggaatatcaa ccggaagctc tcagctgcag gcatgcatga agccctgaag 1260
cttgctgaga ggccagagag acctgagttt gtgtacaaaa atgctgacta ctgtagaaaa 1320
aaaggtcatg attcatgatt gaaagcagaa caatggagag gaattcgata tcaagctta 1379

```

<210> 451
 <211> 445
 <212> PRT
 <213> Homo sapiens

<400> 451
 Met Met Asp Val Asn Ser Ser Gly Arg Pro Asp Leu Tyr Gly His Leu
 1 5 10 15
 Arg Ser Phe Leu Leu Pro Glu Val Gly Arg Gly Leu Pro Asp Leu Ser
 20 25 30
 Pro Asp Gly Gly Ala Asp Pro Val Ala Gly Ser Trp Ala Pro His Leu
 35 40 45
 Leu Ser Glu Val Thr Ala Ser Pro Ala Pro Thr Trp Asp Ala Pro Pro
 50 55 60
 Asp Asn Ala Ser Gly Cys Gly Glu Gln Ile Asn Tyr Gly Arg Val Glu
 65 70 75 80
 Lys Val Val Ile Gly Ser Ile Leu Thr Leu Ile Thr Leu Leu Thr Ile
 85 90 95
 Ala Gly Asn Cys Leu Val Val Ile Ser Val Cys Phe Val Lys Lys Leu
 100 105 110
 Arg Gln Pro Ser Asn Tyr Leu Ile Val Ser Leu Ala Leu Ala Asp Leu
 115 120 125
 Ser Val Ala Val Ala Val Met Pro Phe Val Ser Val Thr Asp Leu Ile
 130 135 140
 Gly Gly Lys Trp Ile Phe Gly His Phe Phe Cys Asn Val Phe Ile Ala
 145 150 155 160

Met	Asp	Val	Met	Cys	Cys	Thr	Ala	Ser	Ile	Met	Thr	Leu	Cys	Val	Ile	
				165					170					175		
Ser	Ile	Asp	Arg	Tyr	Leu	Gly	Ile	Thr	Arg	Pro	Leu	Thr	Tyr	Pro	Val	
			180					185					190			
Arg	Gln	Asn	Gly	Lys	Cys	Met	Ala	Lys	Met	Ile	Leu	Ser	Val	Trp	Leu	
		195					200					205				
Leu	Ser	Ala	Ser	Ile	Thr	Leu	Pro	Pro	Leu	Phe	Gly	Trp	Ala	Gln	Asn	
	210					215					220					
Val	Asn	Asp	Asp	Lys	Val	Cys	Leu	Ile	Ser	Gln	Asp	Phe	Gly	Tyr	Thr	
225					230					235					240	
Ile	Tyr	Ser	Thr	Ala	Val	Ala	Phe	Tyr	Ile	Pro	Met	Ser	Val	Met	Leu	
				245					250					255		
Phe	Met	Tyr	Tyr	Gln	Ile	Tyr	Lys	Ala	Ala	Arg	Lys	Ser	Ala	Ala	Lys	
			260					265					270			
His	Lys	Phe	Pro	Gly	Phe	Pro	Arg	Val	Glu	Pro	Asp	Ser	Val	Ile	Ala	
		275					280					285				
Leu	Asn	Gly	Ile	Val	Lys	Leu	Gln	Lys	Glu	Val	Glu	Glu	Cys	Ala	Asn	
	290					295					300					
Leu	Ser	Arg	Leu	Leu	Lys	His	Glu	Arg	Lys	Asn	Ile	Ser	Ile	Phe	Lys	
305					310					315					320	
Arg	Glu	Gln	Lys	Ala	Lys	Thr	Thr	Leu	Gly	Ile	Ile	Val	Gly	Ala	Phe	
				325					330					335		
Thr	Val	Cys	Trp	Leu	Pro	Phe	Phe	Leu	Leu	Ser	Thr	Ala	Arg	Pro	Phe	
			340					345					350			
Ile	Cys	Gly	Thr	Ser	Cys	Ser	Cys	Ile	Pro	Leu	Trp	Val	Glu	Arg	Thr	
		355					360					365				
Phe	Leu	Trp	Leu	Gly	Tyr	Ala	Asn	Ser	Leu	Ile	Asn	Pro	Phe	Ile	Tyr	
	370					375					380					
Ala	Phe	Phe	Asn	Arg	Asp	Leu	Arg	Thr	Thr	Tyr	Arg	Ser	Leu	Leu	Gln	
385					390					395					400	
Cys	Gln	Tyr	Arg	Asn	Ile	Asn	Arg	Lys	Leu	Ser	Ala	Ala	Gly	Met	His	
				405					410					415		
Glu	Ala	Leu	Lys	Leu	Ala	Glu	Arg	Pro	Glu	Arg	Pro	Glu	Phe	Val	Leu	
			420					425					430			
Gln	Asn	Ala	Asp	Tyr	Cys	Arg	Lys	Lys	Gly	His	Asp	Ser				
		435					440					445				

<210> 452
 <211> 1257

<212> DNA
<213> Homo sapiens

<400> 452
atgctgtctt cgcgcgtgcc cgacgcgggg ccctcgggca actccagccc atggtggcct 60
ctggccaccg gcgctggcaa cacaagccgg gaggcggaag ccctcgggga gggcaacggc 120
ccaccgaggg acgtgcgcaa cgaggagctg gccaaactgg agatcgccgt gctggcggtg 180
actttcgcgg tggccgtgct gggcaacagc agcgtactgc tggctctgca ccggacgccc 240
cgcaagacgt cccgcatgca cctcttcacg cgacacctca gcctggccga cctggccgtg 300
gcattcttcc aggtgctgcc gcaaagtgtc tgggacatca cctaccgctt ccgcggcccc 360
gactggctgt gccgcgtggt gaagcacctg caggtgttcg gcatgtttgc gtcggcctac 420
atgctggttag tcatgacagc cgaccgctac atcgcggtgt gccaccgct caagactctg 480
caacagcccg cgcgcgctc gcgctcatg atcgcgccg cctgggtgct gagcttcgtg 540
ctgagcacgc cgcagtaact cgtcttctcc atgatcgagg tgaacaatgt caccaaggcc 600
cgcgactgct gggccacctt catccagccc tgggggttctc gtgcctacgt gacctggatg 660
acgggcgcca tctttgtggc gcccggtgtc atcttgggta cctgctacgg ctctcatctg 720
tacaacatct ggtgcaacgt ccgcgggaag acggcgctgc gccagagcaa ggggtgcagag 780
caagcgggtg tggccttcca aaaggggttc ctgctcgac cctgtgtcag cagcgtgaag 840
tccatttccc gggccaagat ccgcacgaag aagatgactt ttgtgatcgt gacggcttac 900
atcgtctgct gggcgcttt ctctcatcag cagatgtggt ctgtctggga tcccatgtcc 960
gtctggaccg aatcggaata ccctaccatc accatcactg cattactggg ttccttgaat 1020
agctgctgta atccctggat atacatgttt ttagtgaggc atctccttca agactgtgtt 1080
caaagcttcc catgctgcca aaacatgaag gaaaaattca acaaagaaga tactgacagt 1140
atgagcagaa gacagacttt ttattctaac aatcgaagcc caacaaacag tacgggtatg 1200
tggaaggact cgcctaaatc ttccaagtcc atcaaattca ttcctgtttc aacttga 1257

<210> 453
<211> 418
<212> PRT
<213> Homo sapiens

<400> 453
Met Arg Leu Ser Ala Gly Pro Asp Ala Gly Pro Ser Gly Asn Ser Ser
1 5 10 15
Pro Trp Trp Pro Leu Ala Thr Gly Ala Gly Asn Thr Ser Arg Glu Ala
20 25 30
Glu Ala Leu Gly Glu Gly Asn Gly Pro Pro Arg Asp Val Arg Asn Glu
35 40 45
Glu Leu Ala Lys Leu Glu Ile Ala Val Leu Ala Val Thr Phe Ala Val
50 55 60
Ala Val Leu Gly Asn Ser Ser Val Leu Leu Ala Leu His Arg Thr Pro
65 70 75 80
Arg Lys Thr Ser Arg Met His Leu Phe Ile Arg His Leu Ser Leu Ala
85 90 95
Asp Leu Ala Val Ala Phe Phe Gln Val Leu Pro Gln Met Cys Trp Asp
100 105 110
Ile Thr Tyr Arg Phe Arg Gly Pro Asp Trp Leu Cys Arg Val Val Lys
115 120 125

His	Leu	Gln	Val	Phe	Gly	Met	Phe	Ala	Ser	Ala	Tyr	Met	Leu	Val	Val	130	135	140
Met	Thr	Ala	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Leu	Lys	Thr	Leu	145	150	155
Gln	Gln	Pro	Ala	Arg	Arg	Ser	Arg	Leu	Met	Ile	Ala	Ala	Ala	Trp	Val	165	170	175
Leu	Ser	Phe	Val	Leu	Ser	Thr	Pro	Gln	Tyr	Phe	Val	Phe	Ser	Met	Ile	180	185	190
Glu	Val	Asn	Asn	Val	Thr	Lys	Ala	Arg	Asp	Cys	Trp	Ala	Thr	Phe	Ile	195	200	205
Gln	Pro	Trp	Gly	Ser	Arg	Ala	Tyr	Val	Thr	Trp	Met	Thr	Gly	Gly	Ile	210	215	220
Phe	Val	Ala	Pro	Val	Val	Ile	Leu	Gly	Thr	Cys	Tyr	Gly	Phe	Ile	Cys	225	230	235
Tyr	Asn	Ile	Trp	Cys	Asn	Val	Arg	Gly	Lys	Thr	Ala	Ser	Arg	Gln	Ser	245	250	255
Lys	Gly	Ala	Glu	Gln	Ala	Gly	Val	Ala	Phe	Gln	Lys	Gly	Phe	Leu	Leu	260	265	270
Ala	Pro	Cys	Val	Ser	Ser	Val	Lys	Ser	Ile	Ser	Arg	Ala	Lys	Ile	Arg	275	280	285
Thr	Lys	Lys	Met	Thr	Phe	Val	Ile	Val	Thr	Ala	Tyr	Ile	Val	Cys	Trp	290	295	300
Ala	Pro	Phe	Phe	Ile	Ile	Gln	Met	Trp	Ser	Val	Trp	Asp	Pro	Met	Ser	305	310	315
Val	Trp	Thr	Glu	Ser	Glu	Asn	Pro	Thr	Ile	Thr	Ile	Thr	Ala	Leu	Leu	325	330	335
Gly	Ser	Leu	Asn	Ser	Cys	Cys	Asn	Pro	Trp	Ile	Tyr	Met	Phe	Phe	Ser	340	345	350
Gly	His	Leu	Leu	Gln	Asp	Cys	Val	Gln	Ser	Phe	Pro	Cys	Cys	Gln	Asn	355	360	365
Met	Lys	Glu	Lys	Phe	Asn	Lys	Glu	Asp	Thr	Asp	Ser	Met	Ser	Arg	Arg	370	375	380
Gln	Thr	Phe	Tyr	Ser	Asn	Asn	Arg	Ser	Pro	Thr	Asn	Ser	Thr	Gly	Met	385	390	395
Trp	Lys	Asp	Ser	Pro	Lys	Ser	Ser	Lys	Ser	Ile	Lys	Phe	Ile	Pro	Val	405	410	415
Ser	Thr																	

<210> 454
 <211> 1275
 <212> DNA
 <213> Homo sapiens

<400> 454
 atggattctg ggcctctgtg ggatgccaac cccacccctc ggggcaccct ctctgcccc 60
 aatgccacaa caccctggct gggccgggat gaggagctgg ccaaggtgga gatcggagtc 120
 ctggccactg tcctgggtgt ggcgaccggg ggcaacctgg ctgtgctgct gaccctgggc 180
 cagctggggc gcaagcgctc ccgcatgcac ctgttcgtgc tgcacttagc cctgacagac 240
 ctggccgtgg cgctcttcca ggtgctgcca cagctgctgt gggacatcac ctaccgcttc 300
 cagggccccg acctcctgtg cagggccgtc aagtacctgc aggtgctcag catgtttgcc 360
 tccacctaca tgctgctggc catgacgctg gaccgctacc tggctgtctg tcacccctg 420
 cgcagcctcc agcagccagg ccagtccacc tacctgctca tcgctgctcc ctggctgctg 480
 gccgccatct tcagcctccc tcaagtcttc attttttccc tgcgggaggt gatccagggc 540
 tcaggggtgc tggactgctg ggcagacttc ggcttccctt gggggccacg ggcctacctc 600
 acctggacca ccctggctat ctctgttctg ccggtgacca tgcctacggc ctgctacagc 660
 ctcatctgcc atgagatctg taaaaacctt aaagtcaaga cacaggcctg gcgggtggga 720
 ggagggggct ggaggacttg ggacaggccc tcaccttcca ccttagctgc caccactcgg 780
 gggctgccat ctcggtcag cagcatcaac accatctcac gggccaagat ccgaacaaag 840
 aagatgacct ttgtcatcgt gctggcctac atcgcttgc gggctccctt cttcagtgtc 900
 cagatgtggt ccgtgtggga caagaatgcc cctgatgaag attccaccaa tgtggctttc 960
 accatctcta tgcttttggg caacctcaac agctgctgca acccctggat ctacatgggc 1020
 ttcaacagcc acctgttacc gcggcccttg cgtcaccttg cctgctgtgg ggggtccccag 1080
 cccaggatgc gccggcggt ctccgacggc agcctctcga gccgccacac cacgtgctg 1140
 acccgctcca gctgccggc caccctcagc ctacgctca gcctaaccct cagtgggagg 1200
 cccaggcctg aagagtcacc aagggacttg gagctggcag atggggaagg caccgctgag 1260
 accatcatct tttag 1275

<210> 455
 <211> 424
 <212> PRT
 <213> Homo sapiens

<400> 455
 Met Asp Ser Gly Pro Leu Trp Asp Ala Asn Pro Thr Pro Arg Gly Thr
 1 5 10 15
 Leu Ser Ala Pro Asn Ala Thr Thr Pro Trp Leu Gly Arg Asp Glu Glu
 20 25 30
 Leu Ala Lys Val Glu Ile Gly Val Leu Ala Thr Val Leu Val Leu Ala
 35 40 45
 Thr Gly Gly Asn Leu Ala Val Leu Leu Thr Leu Gly Gln Leu Gly Arg
 50 55 60
 Lys Arg Ser Arg Met His Leu Phe Val Leu His Leu Ala Leu Thr Asp
 65 70 75 80
 Leu Ala Val Ala Leu Phe Gln Val Leu Pro Gln Leu Leu Trp Asp Ile
 85 90 95
 Thr Tyr Arg Phe Gln Gly Pro Asp Leu Leu Cys Arg Ala Val Lys Tyr
 100 105 110

Leu Gln Val Leu Ser Met Phe Ala Ser Thr Tyr Met Leu Leu Ala Met
 115 120 125
 Thr Leu Asp Arg Tyr Leu Ala Val Cys His Pro Leu Arg Ser Leu Gln
 130 135 140
 Gln Pro Gly Gln Ser Thr Tyr Leu Leu Ile Ala Ala Pro Trp Leu Leu
 145 150 155 160
 Ala Ala Ile Phe Ser Leu Pro Gln Val Phe Ile Phe Ser Leu Arg Glu
 165 170 175
 Val Ile Gln Gly Ser Gly Val Leu Asp Cys Trp Ala Asp Phe Gly Phe
 180 185 190
 Pro Trp Gly Pro Arg Ala Tyr Leu Thr Trp Thr Thr Leu Ala Ile Phe
 195 200 205
 Val Leu Pro Val Thr Met Leu Thr Ala Cys Tyr Ser Leu Ile Cys His
 210 215 220
 Glu Ile Cys Lys Asn Leu Lys Val Lys Thr Gln Ala Trp Arg Val Gly
 225 230 235 240
 Gly Gly Gly Trp Arg Thr Trp Asp Arg Pro Ser Pro Ser Thr Leu Ala
 245 250 255
 Ala Thr Thr Arg Gly Leu Pro Ser Arg Val Ser Ser Ile Asn Thr Ile
 260 265 270
 Ser Arg Ala Lys Ile Arg Thr Lys Lys Met Thr Phe Val Ile Val Leu
 275 280 285
 Ala Tyr Ile Ala Cys Trp Ala Pro Phe Phe Ser Val Gln Met Trp Ser
 290 295 300
 Val Trp Asp Lys Asn Ala Pro Asp Glu Asp Ser Thr Asn Val Ala Phe
 305 310 315 320
 Thr Ile Ser Met Leu Leu Gly Asn Leu Asn Ser Cys Cys Asn Pro Trp
 325 330 335
 Ile Tyr Met Gly Phe Asn Ser His Leu Leu Pro Arg Pro Leu Arg His
 340 345 350
 Leu Ala Cys Cys Gly Gly Pro Gln Pro Arg Met Arg Arg Arg Leu Ser
 355 360 365
 Asp Gly Ser Leu Ser Ser Arg His Thr Thr Leu Leu Thr Arg Ser Ser
 370 375 380
 Cys Pro Ala Thr Leu Ser Leu Ser Leu Ser Leu Thr Leu Ser Gly Arg
 385 390 395 400
 Pro Arg Pro Glu Glu Ser Pro Arg Asp Leu Glu Leu Ala Asp Gly Glu
 405 410 415

Gly Thr Ala Glu Thr Ile Ile Phe
420

<210> 456
<211> 1116
<212> DNA
<213> Homo sapiens

<400> 456
atgctcatgg cgtccaccac ttccgctgtg cctgggcac cctctctgcc cagcctgccc 60
agcaacagca gccaggagag gccactggac acccgggacc cgctgctagc ccgggcgagg 120
ctggcgctgc tctccatagt ctttgtggct gtggccctga gcaatggcct ggtgctggcg 180
gccctagetc ggcggggccc gcggggccac tgggcaccca tacacgtctt cattggccac 240
ttgtgcctgg ccgacctggc cgtggctctg ttccaagtgc tgcccagct ggcctggaag 300
gccaccgacc gcttccgtgg gccagatgcc ctgtgtcggg ccgtgaagta tctgcagatg 360
gtgggcatgt atgcctcctc ctacatgac ctggccatga cgctggaccg ccaccgtgcc 420
atctgccgtc ccatgctggc gtaccgccat ggaagtgggg ctactggaa ccggccgggtg 480
ctagtggctt gggccttctc gctccttctc agcctgcccc agctcttcat cttcgcccag 540
cgcaacgtgg aaggtggcag cggggtcact gactgctggg cctgctttgc ggagccctgg 600
ggcgcgtcga cctatgtcac ctggattgcc ctgatggtgt tcgtggcacc taccctgggt 660
atcgccgcct gccaggtgct catcttcgg gagattcatg ccagtctggt gccagggcca 720
tcagagaggc ctggggggcg ccgcagggga cgcggacag gcagccccgg tgagggagcc 780
cacgtgtcag cagctgtggc caagactaag aggatgacgc tagtgattgt ggtcgtctat 840
gtgctgtgct gggcaccctt cttcctggtg cagctgtggg ccgcgtggga ccgggaggca 900
cctctggaag gggcgccctt tgtgctactc atgttgctgg ccagcctcaa cagctgcacc 960
aaccctgga tctatgcac tttcagcagc agcgtgtcct cagagctgcg aagcttgctc 1020
tgctgtgccc ggggacgcac cccaccagc ctgggtcccc aagatgagtc ctgcaccacc 1080
gccagctcct ccctggccaa ggacacttca tcgtga 1116

<210> 457
<211> 371
<212> PRT
<213> Homo sapiens

<400> 457
Met Leu Met Ala Ser Thr Thr Ser Ala Val Pro Gly His Pro Ser Leu
1 5 10 15
Pro Ser Leu Pro Ser Asn Ser Ser Gln Glu Arg Pro Leu Asp Thr Arg
20 25 30
Asp Pro Leu Leu Ala Arg Ala Glu Leu Ala Leu Leu Ser Ile Val Phe
35 40 45
Val Ala Val Ala Leu Ser Asn Gly Leu Val Leu Ala Ala Leu Ala Arg
50 55 60
Arg Gly Arg Arg Gly His Trp Ala Pro Ile His Val Phe Ile Gly His
65 70 75 80
Leu Cys Leu Ala Asp Leu Ala Val Ala Leu Phe Gln Val Leu Pro Gln
85 90 95
Leu Ala Trp Lys Ala Thr Asp Arg Phe Arg Gly Pro Asp Ala Leu Cys

<213> Homo sapiens

<400> 458

```
atgggtcaaa ggcagcctca ctcacctaata cagacttttaa tttcaatcac aaatgacaca 60
gaatcatcaa gctctgtggg ttctaacgat aacacaaata aaggatggag oggggacaac 120
tctccaggaa tagaagcatt gtgtgccatc tatattactt atgctgtgat catttcagtg 180
ggcatccttg gaaatgctat tctcatcaaa gtctttttca agaccaaata catgcaaaca 240
gttccaaata ttttcatcac cagcctgggt tttggagatc ttttacttct gctaacttgt 300
gtgccagtgg atgcaactca ctaccttgca gaaggatggc tggtcggag aattgggtgt 360
aagggtgctc ttttcatccg gctcacttct gttggtgtgt cagtgttcac attaacaatt 420
ctcagcgctg acagatacaa ggcagttgtg aagccacttg agcgacagcc ctccaatgcc 480
atcctgaaga cttgtgtaaa agctggctgc gtctggatcg tgtctatgat atttgcctta 540
cctgaggcta tattttcaaa tgtatacact tttcgagatc ccaataaaaa tatgacattt 600
gaatcatgta cctcttatcc tgtctctaag aagctcttgc aagaaataca ttctctgtg 660
tgcttcttag tgttctacat tattccactc tctattatct ctgtctacta ttctctgatt 720
gctaggaccc tttacaaaag caccctgaac atacctactg aggaacaaaag ccatgcccg 780
aagcagattg aatcccgaaa gagaattaaa agaacggtat tgggtgttgt ggctctgtt 840
gccctctgct ggttgccaaa tcacctcctg tacctctacc attcattcac ttctcaaacc 900
tatgtagacc cctctgccat gcatttcatt ttcaccattt tctctcgggt tttggctttc 960
agcaattctt gcgtaaaccc ctttgctctc tactggctga gcaaaagctt ccagaagcat 1020
tttaaagctc agttgttctg ttgcaaggcg gagcggcctg agcctcctgt tgctgacacc 1080
tctcttacca ccctggctgt gatgggaacg gtcccgggca ctgggagcat acagatgtct 1140
gaaattagtg tgacctcggt cactgggtgt agtgtgaagc aggcagagga cagattctag 1200
```

<210> 459

<211> 399

<212> PRT

<213> Homo sapiens

<400> 459

```
Met Ala Gln Arg Gln Pro His Ser Pro Asn Gln Thr Leu Ile Ser Ile
  1                      5                      10                      15

Thr Asn Asp Thr Glu Ser Ser Ser Ser Val Val Ser Asn Asp Asn Thr
 20                      25                      30

Asn Lys Gly Trp Ser Gly Asp Asn Ser Pro Gly Ile Glu Ala Leu Cys
 35                      40                      45

Ala Ile Tyr Ile Thr Tyr Ala Val Ile Ile Ser Val Gly Ile Leu Gly
 50                      55                      60

Asn Ala Ile Leu Ile Lys Val Phe Phe Lys Thr Lys Ser Met Gln Thr
 65                      70                      75                      80

Val Pro Asn Ile Phe Ile Thr Ser Leu Ala Phe Gly Asp Leu Leu Leu
 85                      90                      95

Leu Leu Thr Cys Val Pro Val Asp Ala Thr His Tyr Leu Ala Glu Gly
100                      105                      110

Trp Leu Phe Gly Arg Ile Gly Cys Lys Val Leu Ser Phe Ile Arg Leu
115                      120                      125

Thr Ser Val Gly Val Ser Val Phe Thr Leu Thr Ile Leu Ser Ala Asp
130                      135                      140
```

Arg 145	Tyr	Lys	Ala	Val	Val 150	Lys	Pro	Leu	Glu	Arg 155	Gln	Pro	Ser	Asn	Ala 160
Ile	Leu	Lys	Thr	Cys 165	Val	Lys	Ala	Gly	Cys 170	Val	Trp	Ile	Val	Ser	Met
Ile	Phe	Ala	Leu 180	Pro	Glu	Ala	Ile	Phe 185	Ser	Asn	Val	Tyr	Thr 190	Phe	Arg
Asp	Pro	Asn 195	Lys	Asn	Met	Thr	Phe 200	Glu	Ser	Cys	Thr	Ser 205	Tyr	Pro	Val
Ser 210	Lys	Lys	Leu	Leu	Gln 215	Glu	Ile	His	Ser	Leu 220	Leu	Cys	Phe	Leu	Val
Phe 225	Tyr	Ile	Ile	Pro	Leu 230	Ser	Ile	Ile	Ser	Val 235	Tyr	Tyr	Ser	Leu	Ile 240
Ala	Arg	Thr	Leu 245	Tyr	Lys	Ser	Thr	Leu	Asn 250	Ile	Pro	Thr	Glu 255	Glu	Gln
Ser	His	Ala	Arg 260	Lys	Gln	Ile	Glu	Ser 265	Arg	Lys	Arg	Ile	Lys 270	Arg	Thr
Val	Leu	Val 275	Leu	Val	Ala	Leu	Phe 280	Ala	Leu	Cys	Trp	Leu 285	Pro	Asn	His
Leu 290	Leu	Tyr	Leu	Tyr	His 295	Ser	Phe	Thr	Ser	Gln 300	Thr	Tyr	Val	Asp	Pro
Ser 305	Ala	Met	His	Phe	Ile 310	Phe	Thr	Ile	Phe 315	Ser	Arg	Val	Leu	Ala	Phe 320
Ser	Asn	Ser	Cys 325	Val	Asn	Pro	Phe	Ala	Leu 330	Tyr	Trp	Leu	Ser	Lys 335	Ser
Phe	Gln	Lys	His 340	Phe	Lys	Ala	Gln	Leu 345	Phe	Cys	Cys	Lys	Ala 350	Glu	Arg
Pro	Glu	Pro 355	Pro	Val	Ala	Asp	Thr 360	Ser	Leu	Thr	Thr	Leu 365	Ala	Val	Met
Gly 370	Thr	Val	Pro	Gly	Thr 375	Gly	Ser	Ile	Gln	Met 380	Ser	Glu	Ile	Ser	Val
Thr 385	Ser	Phe	Thr	Gly	Cys 390	Ser	Val	Lys	Gln 395	Ala	Glu	Asp	Arg	Phe	

```
<210> 460
<211> 1062
<212> DNA
<213> Homo sapiens
```



```

caaaatgcta cggcctgtga caatgctcca gaagcctggg acctgctgca cagagtgtctg 120
ccgacattta tcattctccat ctgtttcttc ggctccttag ggaacctttt tgtcctgttg 180
gtcttcctcc tgccccggcg gcaactgaac gtggcagaaa tctacctggc caacctggca 240
gcctctgata tgggtgtttgt cttgggcttg cccttctggg cagagaatat ctggaaccag 300
tttaactggc ctttcggagc cctcctctgc cgtgtcatca acgggggtcat caaggccaat 360
ttgttcatca gcatcttctt ggtggtggcc atcagccagg accgctaccg cgtgctggtg 420
caccctatgg ccagccggag gcagcagcgg cggagggcagg cccgggtcac ctgctgtctc 480
atctggggtt tggggggcct cttgagcatc cccacattcc tgctgcatc catccaagcc 540
gtcccagatc tgaacatcac cgcctgcatc ctgctcctcc cccatgagge ctggcacttt 600
gcaaggattg tggagttaaa tattctgggt ttcctcctac cactggctgc gatcgtcttc 660
ttcaactacc acatcctggc ctccctgcga acgcgggagg aggtcagcag gacaagggtc 720
ggggggccgca aggatagcaa gaccaaagcg ctgatactca cgctcgtggt tgccttcctg 780
gtctgctggg ccccttacc cttctttgcc ttcctggaat tcttattcca ggtgcaagca 840
gtccgaggct gcttttggga ggacttcatt gacctgggcc tgcaattggc caacttcttt 900
gccttcacta acagctccct gaatccagta atttatgtct ttgtgggccc gctcttcagg 960
accaaggctc gggaacttta taaacaatgc acccctaata gtcttgctcc aatatcttca 1020
tcccatagga aagaaatctt ccaacttttc tggcggaatt aa 1062

```

<210> 461
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 461

Met	Ala	Ser	Ser	Trp	Pro	Pro	Leu	Glu	Leu	Gln	Ser	Ser	Asn	Gln	Ser
1				5					10					15	
Gln	Leu	Phe	Pro	Gln	Asn	Ala	Thr	Ala	Cys	Asp	Asn	Ala	Pro	Glu	Ala
			20					25					30		
Trp	Asp	Leu	Leu	His	Arg	Val	Leu	Pro	Thr	Phe	Ile	Ile	Ser	Ile	Cys
		35					40					45			
Phe	Phe	Gly	Leu	Leu	Gly	Asn	Leu	Phe	Val	Leu	Leu	Val	Phe	Leu	Leu
	50					55					60				
Pro	Arg	Arg	Gln	Leu	Asn	Val	Ala	Glu	Ile	Tyr	Leu	Ala	Asn	Leu	Ala
	65				70					75				80	
Ala	Ser	Asp	Leu	Val	Phe	Val	Leu	Gly	Leu	Pro	Phe	Trp	Ala	Glu	Asn
			85						90					95	
Ile	Trp	Asn	Gln	Phe	Asn	Trp	Pro	Phe	Gly	Ala	Leu	Leu	Cys	Arg	Val
		100						105					110		
Ile	Asn	Gly	Val	Ile	Lys	Ala	Asn	Leu	Phe	Ile	Ser	Ile	Phe	Leu	Val
	115						120					125			
Val	Ala	Ile	Ser	Gln	Asp	Arg	Tyr	Arg	Val	Leu	Val	His	Pro	Met	Ala
	130					135					140				
Ser	Arg	Arg	Gln	Gln	Arg	Arg	Arg	Gln	Ala	Arg	Val	Thr	Cys	Val	Leu
	145				150					155					160
Ile	Trp	Val	Val	Gly	Gly	Leu	Leu	Ser	Ile	Pro	Thr	Phe	Leu	Leu	Arg
				165					170					175	

Ser Ile Gln Ala Val Pro Asp Leu Asn Ile Thr Ala Cys Ile Leu Leu
180 185 190

Leu Pro His Glu Ala Trp His Phe Ala Arg Ile Val Glu Leu Asn Ile
195 200 205

Leu Gly Phe Leu Leu Pro Leu Ala Ala Ile Val Phe Phe Asn Tyr His
210 215 220

Ile Leu Ala Ser Leu Arg Thr Arg Glu Glu Val Ser Arg Thr Arg Cys
225 230 235 240

Gly Gly Arg Lys Asp Ser Lys Thr Lys Ala Leu Ile Leu Thr Leu Val
245 250 255

Val Ala Phe Leu Val Cys Trp Ala Pro Tyr His Phe Phe Ala Phe Leu
260 265 270

Glu Phe Leu Phe Gln Val Gln Ala Val Arg Gly Cys Phe Trp Glu Asp
275 280 285

Phe Ile Asp Leu Gly Leu Gln Leu Ala Asn Phe Phe Ala Phe Thr Asn
290 295 300

Ser Ser Leu Asn Pro Val Ile Tyr Val Phe Val Gly Arg Leu Phe Arg
305 310 315 320

Thr Lys Val Trp Glu Leu Tyr Lys Gln Cys Thr Pro Lys Ser Leu Ala
325 330 335

Pro Ile Ser Ser Ser His Arg Lys Glu Ile Phe Gln Leu Phe Trp Arg
340 345 350

Asn

<210> 462
<211> 1176
<212> DNA
<213> Homo sapiens

<400> 462
atgttctctc cctggaagat atcaatgttt ctgtctgttc gtgaggactc cgtgcccacc 60
acggcctctt tcagcgccga catgctcaat gtcaccttgc aagggccac tcttaacggg 120
acctttgccc agagcaaagtg cccccaagtg gagggtctgg gctgggtcaa caccatccag 180
cccccttcc tctgggtgct gttcgtgctg gccaccctag agaacatctt tgtcctcagc 240
gtcttctgcc tgcacaagag cagctgcacg gtggcagaga tctacctggg gaacctggcc 300
gcagcagacc tgatcctggc ctgcggtctg cccttctggg ccatcaccat ctccaacaac 360
ttcgactggc tctttgggga gacgctctgc cgcgtggtga atgccattat ctccatgaac 420
ctgtacagca gcatctgttt cctgatgctg gtgagcatcg accgctacct ggccctggtg 480
aaaaccatgt ccatgggccc gatgcgcggc gtgcgctggg ccaagctcta cagcttggtg 540
atctgggggt gtacgctgct cctgagctca cccatgctgg tgttccggac catgaaggag 600
tacagcgatg agggccacaa cgtcaccgct tgtgtcatca gctacccatc cctcatctgg 660
gaagtgttca ccaacatgct cctgaatgtc gtgggcttcc tgctgccctc gagtgtcatc 720
accttctgca cgatgcagat catgcaggtg ctgcggaaca acgagatgca gaagttcaag 780

gagatccaga cggagaggag ggccaagggtg ctagtcctgg ttgtgtgtgct gctattcatc 840
 atctgctggc tgcccttcca gatcagcacc ttcttgata cgctgcatcg cctcggcatc 900
 ctctccagct gccaggacga gcgcatcatc gatgtaatca cacagatcgc ctcttcatg 960
 gcctacagca acagctgcct caaccactg gtgtacgtga tcgtgggcaa gcgcttccga 1020
 aagaagtctt gggaggtgta ccagggagtg tgccagaaag ggggctgcag gtcagaaccc 1080
 attcagatgg agaactccat gggcacactg cggacctcca tctcogtgga acgccagatt 1140
 caciaactgc aggactgggc agggagcaga cagtga 1176

<210> 463
 <211> 391
 <212> PRT
 <213> Homo sapiens

<400> 463
 Met Phe Ser Pro Trp Lys Ile Ser Met Phe Leu Ser Val Arg Glu Asp
 1 5 10 15
 Ser Val Pro Thr Thr Ala Ser Phe Ser Ala Asp Met Leu Asn Val Thr
 20 25 30
 Leu Gln Gly Pro Thr Leu Asn Gly Thr Phe Ala Gln Ser Lys Cys Pro
 35 40 45
 Gln Val Glu Trp Leu Gly Trp Leu Asn Thr Ile Gln Pro Pro Phe Leu
 50 55 60
 Trp Val Leu Phe Val Leu Ala Thr Leu Glu Asn Ile Phe Val Leu Ser
 65 70 75 80
 Val Phe Cys Leu His Lys Ser Ser Cys Thr Val Ala Glu Ile Tyr Leu
 85 90 95
 Gly Asn Leu Ala Ala Ala Asp Leu Ile Leu Ala Cys Gly Leu Pro Phe
 100 105 110
 Trp Ala Ile Thr Ile Ser Asn Asn Phe Asp Trp Leu Phe Gly Glu Thr
 115 120 125
 Leu Cys Arg Val Val Asn Ala Ile Ile Ser Met Asn Leu Tyr Ser Ser
 130 135 140
 Ile Cys Phe Leu Met Leu Val Ser Ile Asp Arg Tyr Leu Ala Leu Val
 145 150 155 160
 Lys Thr Met Ser Met Gly Arg Met Arg Gly Val Arg Trp Ala Lys Leu
 165 170 175
 Tyr Ser Leu Val Ile Trp Gly Cys Thr Leu Leu Leu Ser Ser Pro Met
 180 185 190
 Leu Val Phe Arg Thr Met Lys Glu Tyr Ser Asp Glu Gly His Asn Val
 195 200 205
 Thr Ala Cys Val Ile Ser Tyr Pro Ser Leu Ile Trp Glu Val Phe Thr
 210 215 220

Asn Met Leu Leu Asn Val Val Gly Phe Leu Leu Pro Leu Ser Val Ile
 225 230 235 240

Thr Phe Cys Thr Met Gln Ile Met Gln Val Leu Arg Asn Asn Glu Met
 245 250 255

Gln Lys Phe Lys Glu Ile Gln Thr Glu Arg Arg Ala Lys Val Leu Val
 260 265 270

Leu Val Val Leu Leu Leu Phe Ile Ile Cys Trp Leu Pro Phe Gln Ile
 275 280 285

Ser Thr Phe Leu Asp Thr Leu His Arg Leu Gly Ile Leu Ser Ser Cys
 290 295 300

Gln Asp Glu Arg Ile Ile Asp Val Ile Thr Gln Ile Ala Ser Phe Met
 305 310 315 320

Ala Tyr Ser Asn Ser Cys Leu Asn Pro Leu Val Tyr Val Ile Val Gly
 325 330 335

Lys Arg Phe Arg Lys Lys Ser Trp Glu Val Tyr Gln Gly Val Cys Gln
 340 345 350

Lys Gly Gly Cys Arg Ser Glu Pro Ile Gln Met Glu Asn Ser Met Gly
 355 360 365

Thr Leu Arg Thr Ser Ile Ser Val Glu Arg Gln Ile His Lys Leu Gln
 370 375 380

Asp Trp Ala Gly Ser Arg Gln
 385 390

<210> 464
 <211> 1449
 <212> DNA
 <213> Homo sapiens

<400> 464
 atggcgctctt tctctgctga gaccaattca actgacctac tctcacagcc atggaatgag 60
 cccccagtaa ttctctccat ggtcattctc agccttactt ttttactggg attgccaggc 120
 aatgggctgg tgctgtgggt ggctggcctg aagatgcagc ggacagtga cacaatttgg 180
 ttcctccacc tcaccttggc ggacctctc tgctgcctct ccttgccctt ctgctggct 240
 cacttggctc tcaggggaca gtggccctac ggcaggttcc tatgcaagct catcccctcc 300
 atcattgtcc tcaacatggt tgccagtgtc ttcctgctta ctgccattag cctggatcgc 360
 tgtcttgtgg tattcaagcc aatctgggtg cagaatcatc gcaatgtagg gatggcctgc 420
 tctatctgtg gatgtatctg ggtgggtggc tgtgtgatgt gcattcctgt gttcgtgtac 480
 cgggaaatct tcaactacaga caaccataat agatgtggct acaaatttgg tctctccagc 540
 tcattagatt atccagactt ttatggagat ccactagaaa acaggtctct tgaaaacatt 600
 gttcagccgc ctggagaaat gaatgatagg ttagatcctt cctctttcca acaaatgat 660
 catccttga cagtccccac tgtcttccaa cctcaaacat ttcaaagacc ttctgcagat 720
 tcaactcccta ggggttctgc taggttaaca agtcaaaatc tgtattctaa tgtattttaa 780
 cctgctgatg tggctcacc taaaatcccc agtgggtttc ctattgaaga tcacgaaacc 840
 agcccactgg ataactctga tgcttttctc totactcatt taaagctgtt cctagcgcgt 900
 tctagcaatt ccttctacga gtctgagcta ccacaagggt tccaggatta ttacaattta 960
 ggccaattca cagatgacga tcaagtgcc acaccctcg tggcaataac gatcactagg 1020

```

ctagtgggtgg gtttcctgct gccctctgtt atcatgatag cctgtttacag cttcattgtc 1080
ttccgaatgc aaaggggccc cttcgccaag tctcagagca aaaccaagcg agtggccgtg 1140
gtgggtgggtgg ctgtctttct tgtctgctgg actccatacc acatttttgg agtcctgtca 1200
ttgcttactg acccagaaac tcccttgggg aaaactctga tgtcctggga tcatgtatgc 1260
attgctctag catctgcca tagttgcttt aatcccttcc tttatgccct cttggggaaa 1320
gatttttagga agaaagcaag gcagtcatt caggaattc tggaggcagc cttcagtgag 1380
gagctcacac gttccacca ctgtccctca aacaatgtca tttcagaaag aaatagtaca 1440
actgtgtga                                     1449

```

<210> 465
 <211> 482
 <212> PRT
 <213> Homo sapiens

```

<400> 465
Met Ala Ser Phe Ser Ala Glu Thr Asn Ser Thr Asp Leu Leu Ser Gln
  1              5              10              15

Pro Trp Asn Glu Pro Pro Val Ile Leu Ser Met Val Ile Leu Ser Leu
      20              25              30

Thr Phe Leu Leu Gly Leu Pro Gly Asn Gly Leu Val Leu Trp Val Ala
      35              40              45

Gly Leu Lys Met Gln Arg Thr Val Asn Thr Ile Trp Phe Leu His Leu
      50              55              60

Thr Leu Ala Asp Leu Leu Cys Cys Leu Ser Leu Pro Phe Ser Leu Ala
      65              70              75              80

His Leu Ala Leu Gln Gly Gln Trp Pro Tyr Gly Arg Phe Leu Cys Lys
      85              90              95

Leu Ile Pro Ser Ile Ile Val Leu Asn Met Phe Ala Ser Val Phe Leu
      100             105             110

Leu Thr Ala Ile Ser Leu Asp Arg Cys Leu Val Val Phe Lys Pro Ile
      115             120             125

Trp Cys Gln Asn His Arg Asn Val Gly Met Ala Cys Ser Ile Cys Gly
      130             135             140

Cys Ile Trp Val Val Ala Cys Val Met Cys Ile Pro Val Phe Val Tyr
      145             150             155             160

Arg Glu Ile Phe Thr Thr Asp Asn His Asn Arg Cys Gly Tyr Lys Phe
      165             170             175

Gly Leu Ser Ser Ser Leu Asp Tyr Pro Asp Phe Tyr Gly Asp Pro Leu
      180             185             190

Glu Asn Arg Ser Leu Glu Asn Ile Val Gln Pro Pro Gly Glu Met Asn
      195             200             205

Asp Arg Leu Asp Pro Ser Ser Phe Gln Thr Asn Asp His Pro Trp Thr
      210             215             220

```

Val	Pro	Thr	Val	Phe	Gln	Pro	Gln	Thr	Phe	Gln	Arg	Pro	Ser	Ala	Asp	
225					230					235					240	
Ser	Leu	Pro	Arg	Gly	Ser	Ala	Arg	Leu	Thr	Ser	Gln	Asn	Leu	Tyr	Ser	
				245					250					255		
Asn	Val	Phe	Lys	Pro	Ala	Asp	Val	Val	Ser	Pro	Lys	Ile	Pro	Ser	Gly	
			260					265					270			
Phe	Pro	Ile	Glu	Asp	His	Glu	Thr	Ser	Pro	Leu	Asp	Asn	Ser	Asp	Ala	
		275					280					285				
Phe	Leu	Ser	Thr	His	Leu	Lys	Leu	Phe	Pro	Ser	Ala	Ser	Ser	Asn	Ser	
	290					295					300					
Phe	Tyr	Glu	Ser	Glu	Leu	Pro	Gln	Gly	Phe	Gln	Asp	Tyr	Tyr	Asn	Leu	
305					310					315					320	
Gly	Gln	Phe	Thr	Asp	Asp	Asp	Gln	Val	Pro	Thr	Pro	Leu	Val	Ala	Ile	
				325					330					335		
Thr	Ile	Thr	Arg	Leu	Val	Val	Gly	Phe	Leu	Leu	Pro	Ser	Val	Ile	Met	
			340					345					350			
Ile	Ala	Cys	Tyr	Ser	Phe	Ile	Val	Phe	Arg	Met	Gln	Arg	Gly	Arg	Phe	
		355					360					365				
Ala	Lys	Ser	Gln	Ser	Lys	Thr	Lys	Arg	Val	Ala	Val	Val	Val	Val	Ala	
	370					375					380					
Val	Phe	Leu	Val	Cys	Trp	Thr	Pro	Tyr	His	Ile	Phe	Gly	Val	Leu	Ser	
385					390					395					400	
Leu	Leu	Thr	Asp	Pro	Glu	Thr	Pro	Leu	Gly	Lys	Thr	Leu	Met	Ser	Trp	
				405					410					415		
Asp	His	Val	Cys	Ile	Ala	Leu	Ala	Ser	Ala	Asn	Ser	Cys	Phe	Asn	Pro	
			420					425					430			
Phe	Leu	Tyr	Ala	Leu	Leu	Gly	Lys	Asp	Phe	Arg	Lys	Lys	Ala	Arg	Gln	
		435					440					445				
Ser	Ile	Gln	Gly	Ile	Leu	Glu	Ala	Ala	Phe	Ser	Glu	Glu	Leu	Thr	Arg	
	450					455					460					
Ser	Thr	His	Cys	Pro	Ser	Asn	Asn	Val	Ile	Ser	Glu	Arg	Asn	Ser	Thr	
465					470					475					480	
Thr	Val															

<210> 466
 <211> 1053
 <212> DNA
 <213> Homo sapiens

Trp Gly Leu Ala Leu Leu Leu Thr Ile Pro Ser Phe Leu Tyr Arg Val
165 170 175

Val Arg Glu Glu Tyr Phe Pro Pro Lys Val Leu Cys Gly Val Asp Tyr
180 185 190

Ser His Asp Lys Arg Arg Glu Arg Ala Val Ala Ile Val Arg Leu Val
195 200 205

Leu Gly Phe Leu Trp Pro Leu Leu Thr Leu Thr Ile Cys Tyr Thr Phe
210 215 220

Ile Leu Leu Arg Thr Trp Ser Arg Arg Ala Thr Arg Ser Thr Lys Thr
225 230 235 240

Lys Lys Val Val Val Ala Val Val Ala Ser Phe Phe Ile Phe Trp Leu
245 250 255

Pro Tyr Gln Val Thr Gly Ile Met Met Ser Phe Leu Glu Pro Ser Ser
260 265 270

Pro Thr Phe Leu Leu Leu Asn Lys Leu Asp Ser Leu Cys Val Ser Phe
275 280 285

Ala Tyr Ile Asn Cys Cys Ile Asn Pro Ile Ile Tyr Val Val Ala Gly
290 295 300

Gln Gly Phe Gln Gly Arg Leu Arg Lys Ser Leu Pro Ser Leu Leu Arg
305 310 315 320

Asn Val Leu Thr Glu Glu Ser Val Val Arg Glu Ser Lys Ser Phe Thr
325 330 335

Arg Ser Thr Val Asp Thr Met Ala Gln Lys Thr Gln Ala Val
340 345 350

<210> 468
<211> 1419
<212> DNA
<213> Homo sapiens

<400> 468
atgaagtoga tcttagatgg ccttgacagat accaccttcc gcaccatcac cactgacctc 60
ctgtacgtgg gctcaaatga cattcagtag gaagacatca aaggtgacat ggcattccaaa 120
ttaggggtact tcccacagaa attcccttta acttccttta ggggaagtcc cttccaagag 180
aagatgactg cgggagacaa cccccagcta gtcccagcag accaggtgaa cattacagaa 240
ttttacaaca agtctctctc gtccttcaag gagaatgagg agaacatcca gtgtggggag 300
aacttcatgg acatagagtg tticattggtc ctgaacccca gccagcagct ggccattgca 360
gtcctgtccc tcacgctggg caccttcacg gtcctggaga acctcctggt gctgtgcgtc 420
atcctccact cccgcagcct ccgctgcagg ccttcctacc acttcacggt cagcctggcg 480
gtggcagacc tcttggggag tgtcattttt gtctacagct tcattgactt ccacgtgttc 540
caccgcaaag atagccgcaa cgtgtttctg ttcaaactgg gtgggggtcac ggcctccttc 600
actgcctccg tgggcagcct gttcctcaca gccatcgaca ggtacatatc cattcacagg 660
cccctggcct ataagaggat tgtcaccagg cccaaggccg tggtagcggt ttgcctgatg 720
tggaccatag ccattgtgat cgcggtgctg cctctcctgg gctggaactg cgagaaactg 780


```

caatctgttt gctcagacat tttccacac attgatgaaa cctacctgat gttctggatc 840
ggggtcacca gcgtactgct tctgttcac gtgtatgcgt acatgtatat tctctggaag 900
gctcacagcc acgccgtccg catgattcag cgtggcaccc agaagagcat catcatccac 960
acgtctgagg atgggaaggt acaggtgacc cggccagacc aagcccgcac ggacattagg 1020
ttaaagaaga ccctggtcct gatcctggtg gtgttgatca tctgctgggg ccctctgctt 1080
gcaatcatgg tgtatgatgt ctttgggaag atgaacaagc tcattaagac ggtgtttgca 1140
ttctgcagta tgctctgcct gctgaactcc accgtgaacc ccatcatcta tgctctgagg 1200
agtaaggacc tgcgacacgc tttccggagc atgtttccct cttgtgaagg cactgcgcag 1260
cctctggata acagcatggg ggactcggac tgctgcaca aacacgcaaa caatgcagcc 1320
agtgttcaca gggccgcaga aagctgcac aagagcacgg tcaagattgc caaggtaacc 1380
atgtctgtgt ccacagacac gtctgccgag gctctgtga 1419

```

<210> 469

<211> 472

<212> PRT

<213> Homo sapiens

<400> 469

```

Met Lys Ser Ile Leu Asp Gly Leu Ala Asp Thr Thr Phe Arg Thr Ile
  1             5             10             15

Thr Thr Asp Leu Leu Tyr Val Gly Ser Asn Asp Ile Gln Tyr Glu Asp
      20             25             30

Ile Lys Gly Asp Met Ala Ser Lys Leu Gly Tyr Phe Pro Gln Lys Phe
      35             40             45

Pro Leu Thr Ser Phe Arg Gly Ser Pro Phe Gln Glu Lys Met Thr Ala
      50             55             60

Gly Asp Asn Pro Gln Leu Val Pro Ala Asp Gln Val Asn Ile Thr Glu
      65             70             75             80

Phe Tyr Asn Lys Ser Leu Ser Ser Phe Lys Glu Asn Glu Glu Asn Ile
      85             90             95

Gln Cys Gly Glu Asn Phe Met Asp Ile Glu Cys Phe Met Val Leu Asn
      100            105            110

Pro Ser Gln Gln Leu Ala Ile Ala Val Leu Ser Leu Thr Leu Gly Thr
      115            120            125

Phe Thr Val Leu Glu Asn Leu Leu Val Leu Cys Val Ile Leu His Ser
      130            135            140

Arg Ser Leu Arg Cys Arg Pro Ser Tyr His Phe Ile Gly Ser Leu Ala
      145            150            155            160

Val Ala Asp Leu Leu Gly Ser Val Ile Phe Val Tyr Ser Phe Ile Asp
      165            170            175

Phe His Val Phe His Arg Lys Asp Ser Arg Asn Val Phe Leu Phe Lys
      180            185            190

Leu Gly Gly Val Thr Ala Ser Phe Thr Ala Ser Val Gly Ser Leu Phe
      195            200            205

```

Leu 210	Thr	Ala	Ile	Asp	Arg	Tyr 215	Ile	Ser	Ile	His	Arg 220	Pro	Leu	Ala	Tyr
Lys 225	Arg	Ile	Val	Thr	Arg 230	Pro	Lys	Ala	Val	Val 235	Ala	Phe	Cys	Leu	Met 240
Trp	Thr	Ile	Ala	Ile 245	Val	Ile	Ala	Val	Leu 250	Pro	Leu	Leu	Gly	Trp 255	Asn
Cys	Glu	Lys	Leu 260	Gln	Ser	Val	Cys	Ser 265	Asp	Ile	Phe	Pro	His 270	Ile	Asp
Glu	Thr	Tyr 275	Leu	Met	Phe	Trp	Ile 280	Gly	Val	Thr	Ser 285	Val	Leu	Leu	Leu
Phe	Ile 290	Val	Tyr	Ala	Tyr	Met 295	Tyr	Ile	Leu	Trp	Lys 300	Ala	His	Ser	His
Ala 305	Val	Arg	Met	Ile	Gln 310	Arg	Gly	Thr	Gln	Lys 315	Ser	Ile	Ile	Ile	His 320
Thr	Ser	Glu	Asp	Gly 325	Lys	Val	Gln	Val	Thr 330	Arg	Pro	Asp	Gln	Ala 335	Arg
Met	Asp	Ile	Arg 340	Leu	Lys	Lys	Thr	Leu 345	Val	Leu	Ile	Leu	Val 350	Val	Leu
Ile	Ile	Cys 355	Trp	Gly	Pro	Leu	Leu 360	Ala	Ile	Met	Val	Tyr 365	Asp	Val	Phe
Gly	Lys 370	Met	Asn	Lys	Leu	Ile 375	Lys	Thr	Val	Phe	Ala 380	Phe	Cys	Ser	Met
Leu 385	Cys	Leu	Leu	Asn	Ser 390	Thr	Val	Asn	Pro	Ile 395	Ile	Tyr	Ala	Leu	Arg 400
Ser	Lys	Asp	Leu	Arg 405	His	Ala	Phe	Arg	Ser 410	Met	Phe	Pro	Ser	Cys 415	Glu
Gly	Thr	Ala	Gln 420	Pro	Leu	Asp	Asn	Ser 425	Met	Gly	Asp	Ser	Asp 430	Cys	Leu
His	Lys	His 435	Ala	Asn	Asn	Ala	Ala 440	Ser	Val	His	Arg	Ala 445	Ala	Glu	Ser
Cys	Ile 450	Lys	Ser	Thr	Val	Lys 455	Ile	Ala	Lys	Val	Thr 460	Met	Ser	Val	Ser
Thr 465	Asp	Thr	Ser	Ala	Glu 470	Ala	Leu								

```
<210> 470
<211> 1083
<212> DNA
<213> Homo sapiens
```


145		150		155		160
Ser Ala Leu Val	Ser Tyr Leu Pro Leu Met Gly Trp Thr Cys Cys Pro					
	165			170		175
Arg Pro Cys Ser Glu Leu Phe Pro Leu Ile Pro Asn Asp Tyr Leu Leu						
	180			185		190
Ser Trp Leu Leu Phe Ile Ala Phe Leu Phe Ser Gly Ile Ile Tyr Thr						
	195			200		205
Tyr Gly His Val Leu Trp Lys Ala His Gln His Val Ala Ser Leu Ser						
	210			215		220
Gly His Gln Asp Arg Gln Val Pro Gly Met Ala Arg Met Arg Leu Asp						
	225			230		240
Val Arg Leu Lys Lys Thr Leu Gly Leu Val Leu Ala Val Leu Leu Ile						
	245			250		255
Cys Trp Phe Pro Val Leu Ala Leu Met Ala His Ser Leu Ala Thr Thr						
	260			265		270
Leu Ser Asp Gln Val Lys Lys Ala Phe Ala Phe Cys Ser Met Leu Cys						
	275			280		285
Leu Ile Asn Ser Met Val Asn Pro Val Ile Tyr Ala Leu Arg Ser Gly						
	290			295		300
Glu Ile Arg Ser Ser Ala His His Cys Leu Ala His Trp Lys Lys Cys						
	305			310		320
Val Arg Gly Leu Gly Ser Glu Ala Lys Glu Glu Ala Pro Arg Ser Ser						
	325			330		335
Val Thr Glu Thr Glu Ala Asp Gly Lys Ile Thr Pro Trp Pro Asp Ser						
	340			345		350
Arg Asp Leu Asp Leu Ser Asp Cys						
	355			360		

<210> 472
 <211> 1083
 <212> DNA
 <213> Homo sapiens

<400> 472
 atgctgtcca catctcgttc tcggttttatc agaaatacca acgagagcgg tgaagaagtc 60
 accacctttt ttgattatga ttacggtgct ccctgtcata aatttgacgt gaagcaaatt 120
 ggggcccaac tctgcctcc gctctactcg ctgggtgttca tctttggttt tgtgggcaac 180
 atgctgggtcg tctcatctt aataaactgc aaaaagctga agtgcttgac tgacatttac 240
 ctgctcaacc tggccatctc tgatctgctt tttcttatta ctctccatt gtgggctcac 300
 tctgctgcaa atgagtgggt ctttggggaat gcaatgtgca aattattcac agggctgtat 360
 cacatcgggtt attttggcgg aatcttcttc atcatcctcc tgacaatcga tagatacctg 420
 gctattgtcc atgctgtgtt tgctttaaaa gccaggacgg tcacctttgg ggtggtgaca 480
 agtgtgatca cctggttggt ggctgtgttt gcttctgtcc caggaatcat ctttactaaa 540

```

tgccagaaag aagattctgt ttatgtctgt ggcccttatt ttccacgagg atggaataat 600
ttccacacaa taatgaggaa ctttttgggg ctggtcctgc cgctgctcat catgggtcatc 660
tgctactcgg gaatcctgaa aaccctgctt cgggtgctgaa acgagaagaa gaggcataagg 720
gcaaagagag tcattcttcac catcatgatt gtttactttc tcttctggac tccctataac 780
attgtcattc tcttgaacac cttccaggaa ttcttcggcc tgagtaactg tgaaagcacc 840
agtcaactgg accaagccac gcaggtgaca gagactcttg ggatgactca ctgctgcac 900
aatcccatca tctatgcctt cgttggggag aagttcagaa ggtatctctc ggtgttcttc 960
cgaaagcaca tcaccaagcg cttctgcaaa caatgtccag ttttctacag ggagacagtg 1020
gatggagtga cttcaacaaa cagccttcc actggggagc aggaagtctc ggctggttta 1080
taa 1083

```

<210> 473
 <211> 360
 <212> PRT
 <213> Homo sapiens

```

<400> 473
Met Leu Ser Thr Ser Arg Ser Arg Phe Ile Arg Asn Thr Asn Glu Ser
  1             5             10             15

Gly Glu Glu Val Thr Thr Phe Phe Asp Tyr Asp Tyr Gly Ala Pro Cys
      20             25             30

His Lys Phe Asp Val Lys Gln Ile Gly Ala Gln Leu Leu Pro Pro Leu
      35             40             45

Tyr Ser Leu Val Phe Ile Phe Gly Phe Val Gly Asn Met Leu Val Val
      50             55             60

Leu Ile Leu Ile Asn Cys Lys Lys Leu Lys Cys Leu Thr Asp Ile Tyr
      65             70             75             80

Leu Leu Asn Leu Ala Ile Ser Asp Leu Leu Phe Leu Ile Thr Leu Pro
      85             90             95

Leu Trp Ala His Ser Ala Ala Asn Glu Trp Val Phe Gly Asn Ala Met
      100            105            110

Cys Lys Leu Phe Thr Gly Leu Tyr His Ile Gly Tyr Phe Gly Gly Ile
      115            120            125

Phe Phe Ile Ile Leu Leu Thr Ile Asp Arg Tyr Leu Ala Ile Val His
      130            135            140

Ala Val Phe Ala Leu Lys Ala Arg Thr Val Thr Phe Gly Val Val Thr
      145            150            155            160

Ser Val Ile Thr Trp Leu Val Ala Val Phe Ala Ser Val Pro Gly Ile
      165            170            175

Ile Phe Thr Lys Cys Gln Lys Glu Asp Ser Val Tyr Val Cys Gly Pro
      180            185            190

Tyr Phe Pro Arg Gly Trp Asn Asn Phe His Thr Ile Met Arg Asn Ile
      195            200            205

```

Leu Gly Leu Val Leu Pro Leu Leu Ile Met Val Ile Cys Tyr Ser Gly
 210 215 220

Ile Leu Lys Thr Leu Leu Arg Cys Arg Asn Glu Lys Lys Arg His Arg
 225 230 235 240

Ala Lys Arg Val Ile Phe Thr Ile Met Ile Val Tyr Phe Leu Phe Trp
 245 250 255

Thr Pro Tyr Asn Ile Val Ile Leu Leu Asn Thr Phe Gln Glu Phe Phe
 260 265 270

Gly Leu Ser Asn Cys Glu Ser Thr Ser Gln Leu Asp Gln Ala Thr Gln
 275 280 285

Val Thr Glu Thr Leu Gly Met Thr His Cys Cys Ile Asn Pro Ile Ile
 290 295 300

Tyr Ala Phe Val Gly Glu Lys Phe Arg Arg Tyr Leu Ser Val Phe Phe
 305 310 315 320

Arg Lys His Ile Thr Lys Arg Phe Cys Lys Gln Cys Pro Val Phe Tyr
 325 330 335

Arg Glu Thr Val Asp Gly Val Thr Ser Thr Asn Thr Pro Ser Thr Gly
 340 345 350

Glu Gln Glu Val Ser Ala Gly Leu
 355 360

<210> 474

<211> 1068

<212> DNA

<213> Homo sapiens

<400> 474

atgacaacct cactagatac agttgagacc tttggtacca catcctacta tgatgacgtg 60
 ggctgtctct gtgaaaaagc tgataaccaga gcactgatgg cccagtttgt gccccgctg 120
 tactccctgg tgttcactgt gggcctcttg ggcaatgtgg tgggtggtgat gatcctcata 180
 aaatacagga ggctccgaat tatgaccaac atctacctgc tcaacctggc catttcggac 240
 ctgctcttcc tcgtcaccct tccattcttg atccactatg tcagggggca taactgggtt 300
 tttggccatg gcatgtgtaa gctcctctca gggttttatc acacaggctt gtacagcgag 360
 atctttttca taatcctgct gacaatcgac aggtacctgg ccattgtcca tgctgtgttt 420
 gcccttcgag cccggactgt cacttttggg gtcacaccca gcatcgtcac ctggggcctg 480
 gcagtgtctag cagctcttcc tgaattttatc ttctatgaga ctgaagagtt gtttgaagag 540
 actctttgca gtgctcttta cccagaggat acagtatata gctggaggca tttccacact 600
 ctgagaatga ccactcttctg tctcgttctc cctctgctcg ttatggccat ctgctacaca 660
 ggaatcatca aaacgctgct gaggtgcccc agtaaaaaaa agtacaaggc caagcggtc 720
 atttttgtca tcatggcggt gtttttcatt ttctggacac cctacaatgt ggctatcctt 780
 ctctcttcct atcaatccat cttattttgga aatgactgtg agcggagcaa gcatctggac 840
 ctggtcatgc tggtgacaga ggtgatcgcc tactccact gctgcatgaa cccggtgatc 900
 tacgcctttg ttggagagag gttccggaag tacctgcgcc acttcttcca caggcacttg 960
 ctcatgcacc tgggcagata catccattc cttcctagtg agaagctgga aagaaccagc 1020
 tctgtctctc catccacagc agagccggaa ctctctattg tgttttag 1068

<210> 475
 <211> 355
 <212> PRT
 <213> Homo sapiens

<400> 475

```

Met Thr Thr Ser Leu Asp Thr Val Glu Thr Phe Gly Thr Thr Ser Tyr
  1          5          10          15

Tyr Asp Asp Val Gly Leu Leu Cys Glu Lys Ala Asp Thr Arg Ala Leu
          20          25          30

Met Ala Gln Phe Val Pro Pro Leu Tyr Ser Leu Val Phe Thr Val Gly
          35          40          45

Leu Leu Gly Asn Val Val Val Val Met Ile Leu Ile Lys Tyr Arg Arg
  50          55          60

Leu Arg Ile Met Thr Asn Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
  65          70          75          80

Leu Leu Phe Leu Val Thr Leu Pro Phe Trp Ile His Tyr Val Arg Gly
          85          90          95

His Asn Trp Val Phe Gly His Gly Met Cys Lys Leu Leu Ser Gly Phe
  100          105          110

Tyr His Thr Gly Leu Tyr Ser Glu Ile Phe Phe Ile Ile Leu Leu Thr
  115          120          125

Ile Asp Arg Tyr Leu Ala Ile Val His Ala Val Phe Ala Leu Arg Ala
  130          135          140

Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Val Thr Trp Gly Leu
  145          150          155          160

Ala Val Leu Ala Ala Leu Pro Glu Phe Ile Phe Tyr Glu Thr Glu Glu
          165          170          175

Leu Phe Glu Glu Thr Leu Cys Ser Ala Leu Tyr Pro Glu Asp Thr Val
  180          185          190

Tyr Ser Trp Arg His Phe His Thr Leu Arg Met Thr Ile Phe Cys Leu
  195          200          205

Val Leu Pro Leu Leu Val Met Ala Ile Cys Tyr Thr Gly Ile Ile Lys
  210          215          220

Thr Leu Leu Arg Cys Pro Ser Lys Lys Lys Tyr Lys Ala Lys Arg Leu
  225          230          235          240

Ile Phe Val Ile Met Ala Val Phe Phe Ile Phe Trp Thr Pro Tyr Asn
          245          250          255

Val Ala Ile Leu Leu Ser Ser Tyr Gln Ser Ile Leu Phe Gly Asn Asp
  260          265          270

```

Cys Glu Arg Ser Lys His Leu Asp Leu Val Met Leu Val Thr Glu Val
275 280 285

Ile Ala Tyr Ser His Cys Cys Met Asn Pro Val Ile Tyr Ala Phe Val
290 295 300

Gly Glu Arg Phe Arg Lys Tyr Leu Arg His Phe Phe His Arg His Leu
305 310 315 320

Leu Met His Leu Gly Arg Tyr Ile Pro Phe Leu Pro Ser Glu Lys Leu
325 330 335

Glu Arg Thr Ser Ser Val Ser Pro Ser Thr Ala Glu Pro Glu Leu Ser
340 345 350

Ile Val Phe
355

<210> 476
<211> 1059
<212> DNA
<213> Homo sapiens

<400> 476
atggattatc aagtgtcaag tccaatctat gacatcaatt attatacatc ggagccctgc 60
caaaaaatca atgtgaagca aatcgcagcc cgcctcctgc ctccgctcta ctactgggtg 120
ttcatctttg gttttgtggg caacatgctg gtcacctca tcctgataaa ctgcaaaagg 180
ctgaagagca tgactgacat ctacctgctc aacctggcca tctctgacct gtttttcctt 240
cttactgtcc ccttctgggc tcaactatgct gccgccagc gggactttgg aaatacaatg 300
tgtcaactct tgacagggct ctatcttata ggcttcttct ctggaatctt cttoatcatc 360
ctcctgacaa tccataggta cctggctgtc gtccatgctg tgtttgcttt aaaagccagg 420
acggtcacct ttgggggtgg gacaagtgtg atcacttggg tgggtggctgt gtttgctgtc 480
ctcccaggaa tcatctttac cagatctcaa aaagaaggct ttcattacac ctgcagctct 540
cattttccat acagtcagta tcaattctgg aagaatttcc agacattaaa gatagtcac 600
ttggggctgg tctgcccgt gcttgtcatg gtcactgct actcgggaat cctaaaaact 660
ctgcttcggg gtccgaaatga gaagaagagg cacagggcta agaggcttat cttcaccatc 720
atgattgttt attttctctt ctgggctccc tacaacattg tccttctcct gaacaccttc 780
caggaattct ttggcctgaa taattgcagt agctctaaca ggttggaaca agctatgcag 840
gtgacagaga ctcttgggat gacgcactgc tgcacaaacc ccatcatcta tgcctttgtc 900
ggggagaagt tcagaaacta cctcttagtc ttcttccaaa agcacattgc caaacgcttc 960
tgcaaatgct gttctatctt ccagcaagag gctcccagc gagcaagctc agtttacacc 1020
cgatccactg gggagcagga aatatctgtg ggcttgtga 1059

<210> 477
<211> 352
<212> PRT
<213> Homo sapiens

<400> 477
Met Asp Tyr Gln Val Ser Ser Pro Ile Tyr Asp Ile Asn Tyr Tyr Thr
1 5 10 15

Ser Glu Pro Cys Gln Lys Ile Asn Val Lys Gln Ile Ala Ala Arg Leu
20 25 30

Leu	Pro	Pro	Leu	Tyr	Ser	Leu	Val	Phe	Ile	Phe	Gly	Phe	Val	Gly	Asn
35						40			45						
Met	Leu	Val	Ile	Leu	Ile	Leu	Ile	Asn	Cys	Lys	Arg	Leu	Lys	Ser	Met
50						55			60						
Thr	Asp	Ile	Tyr	Leu	Leu	Asn	Leu	Ala	Ile	Ser	Asp	Leu	Phe	Phe	Leu
65			70						75			80			
Leu	Thr	Val	Pro	Phe	Trp	Ala	His	Tyr	Ala	Ala	Ala	Gln	Trp	Asp	Phe
			85						90			95			
Gly	Asn	Thr	Met	Cys	Gln	Leu	Leu	Thr	Gly	Leu	Tyr	Phe	Ile	Gly	Phe
			100			105						110			
Phe	Ser	Gly	Ile	Phe	Phe	Ile	Ile	Leu	Leu	Thr	Ile	Asp	Arg	Tyr	Leu
115						120			125						
Ala	Val	Val	His	Ala	Val	Phe	Ala	Leu	Lys	Ala	Arg	Thr	Val	Thr	Phe
130						135			140						
Gly	Val	Val	Thr	Ser	Val	Ile	Thr	Trp	Val	Val	Ala	Val	Phe	Ala	Ser
145			150						155			160			
Leu	Pro	Gly	Ile	Ile	Phe	Thr	Arg	Ser	Gln	Lys	Glu	Gly	Leu	His	Tyr
			165						170			175			
Thr	Cys	Ser	Ser	His	Phe	Pro	Tyr	Ser	Gln	Tyr	Gln	Phe	Trp	Lys	Asn
			180			185						190			
Phe	Gln	Thr	Leu	Lys	Ile	Val	Ile	Leu	Gly	Leu	Val	Leu	Pro	Leu	Leu
195						200			205						
Val	Met	Val	Ile	Cys	Tyr	Ser	Gly	Ile	Leu	Lys	Thr	Leu	Leu	Arg	Cys
210						215			220						
Arg	Asn	Glu	Lys	Lys	Arg	His	Arg	Ala	Lys	Arg	Leu	Ile	Phe	Thr	Ile
225			230						235			240			
Met	Ile	Val	Tyr	Phe	Leu	Phe	Trp	Ala	Pro	Tyr	Asn	Ile	Val	Leu	Leu
			245			250						255			
Leu	Asn	Thr	Phe	Gln	Glu	Phe	Phe	Gly	Leu	Asn	Asn	Cys	Ser	Ser	Ser
			260			265			270						
Asn	Arg	Leu	Asp	Gln	Ala	Met	Gln	Val	Thr	Glu	Thr	Leu	Gly	Met	Thr
275						280			285						
His	Cys	Cys	Ile	Asn	Pro	Ile	Ile	Tyr	Ala	Phe	Val	Gly	Glu	Lys	Phe
290						295			300						
Arg	Asn	Tyr	Leu	Leu	Val	Phe	Phe	Gln	Lys	His	Ile	Ala	Lys	Arg	Phe
305			310						315			320			
Cys	Lys	Cys	Cys	Ser	Ile	Phe	Gln	Gln	Glu	Ala	Pro	Glu	Arg	Ala	Ser
			325			330						335			

Ser Val Tyr Thr Arg Ser Thr Gly Glu Gln Glu Ile Ser Val Gly Leu
 340 345 350

<210> 478
 <211> 1068
 <212> DNA
 <213> Homo sapiens

<400> 478
 atggattata cacttgacct cagtgtgaca acagtgaccg actactacta ccctgatata 60
 ttctcaagcc cctgtgatgc ggaacttatt cagacaaatg gcaagttgct ccttgctgtc 120
 ttttattgcc tcctgtttgt attcagtcctt ctgggaaaca gcctggatcat cctgggcctt 180
 gtgggtctgca agaagctgag gagcatcaca gatgtatacc tcttgaacct ggccctgtct 240
 gacctgcttt ttgtcttctc ctcccccttt cagacctact atctgctgga ccagtgggtg 300
 tttgggaactg taatgtgcaa agtgggtgtct ggcttttatt acattggctt ctacagcagc 360
 atgtttttca tcacctcat gagtgtggac aggtacctgg ctgttgtcca tgccgtgtat 420
 gccctaaagg tgaggacgat caggatgggc acaacgctgt gcctggcagt atggctaacc 480
 gccattatgg ctaccatccc attgctagtg ttttaccagg tggcctctga agatgggtgtt 540
 ctacagtgtt attcatttta caatcaacag actttgaagt ggaagatctt caccaacttc 600
 aaaatgaaca ttttaggctt gttgatccca ttcacctctt ttatgttctg ctacattaaa 660
 atcctgcacc agctgaagag gtgtcaaaaac cacaacaaga ccaaggccaa gaggttggtg 720
 ctcattgtgg tcattgcata tttacttttc tgggtcccat tcaacgtggg tcttttcctc 780
 acttccttgc acagtatgca catcttgat ggatgtagca taagccaaca gctgacttat 840
 gccacccatg tcacagaaat catttccttt actcactgct gtgtgaaccc tgttatctat 900
 gcttttgttg gggagaagtt caagaaacac ctctcagaaa tatttcagaa aagttgcagc 960
 caaatcttca actacctagg aagacaaatg cctagggaga gctgtgaaaa gtcacatcatc 1020
 tgccagcagc actcctcccg ttcctccagc gtagactaca ttttgtga 1068

<210> 479
 <211> 355
 <212> PRT
 <213> Homo sapiens

<400> 479
 Met Asp Tyr Thr Leu Asp Leu Ser Val Thr Thr Val Thr Asp Tyr Tyr
 1 5 10 15
 Tyr Pro Asp Ile Phe Ser Ser Pro Cys Asp Ala Glu Leu Ile Gln Thr
 20 25 30
 Asn Gly Lys Leu Leu Leu Ala Val Phe Tyr Cys Leu Leu Phe Val Phe
 35 40 45
 Ser Leu Leu Gly Asn Ser Leu Val Ile Leu Val Leu Val Val Cys Lys
 50 55 60
 Lys Leu Arg Ser Ile Thr Asp Val Tyr Leu Leu Asn Leu Ala Leu Ser
 65 70 75 80
 Asp Leu Leu Phe Val Phe Ser Phe Pro Phe Gln Thr Tyr Tyr Leu Leu
 85 90 95

<400> 480

```

atgacaccca cagacttcac aagccctatt cctaacatgg ctgatgacta tggctctgaa 60
tccacatctt ccatggaaga ctacgttaac ttcaacttca ctgacttcta ctgtgagaaa 120
aacaatgtca ggcagtttgc gagccatttc ctcccaccct tgtactggct cgtgttcac 180
gtgggtgcct tgggcaacag tcttgttatc cttgtctact ggtactgcac aagagtgaag 240
accatgaccg acatgttcct tttgaatttg gcaattgctg acctcctctt tcttgctact 300
cttcccttct gggccattgc tgctgctgac cagtggaggt tccagacctt catgtgcaag 360
gtgggtcaaca gcatgtacaa gatgaacttc tacagctgtg tgttgctgat catgtgcac 420
agcgtggaca ggtacattgc cattgccacg gccatgagag cacatacttg gagggagaaa 480
aggcttttgt acagcaaaat ggtttgcttt accatctggg tattggcagc tgctctctgc 540
atcccagaaa tcttatacag ccaaatacaag gaggaatccg gcattgctat ctgcaccatg 600
gtttacccta gcatgagag caccaaactg aagtcagctg tcttgaccct gaaggtcatt 660
ctggggttct tccttccctt cgtggctcat gcttgctgct ataccatcat cattcacacc 720
ctgatacaag ccaagaagtc ttccaagcac aaagccaaaa aagtgacat cactgtcctg 780
accgtctttg tcttgctcct gtttccctac aactgcattt tgttggtgca gaccattgac 840
gcctatgcca tggtcatctc caactgtgcc gtttccacca acattgacat ctgcttccag 900
gtcaccacga ccacgcctt cttccacagt tgcctgaacc ctgttctcta tgtttttgtg 960
gggtgagagat tccgccggga tctcgtgaaa accctgaaga acttgggttg catcagccag 1020
gccagtgagg tttcatttac aaggagagag ggaagcttga agctgtcgtc tatgttgctg 1080
gagacaacct caggagcact ctccctctga 1110

```

<210> 481

<211> 369

<212> PRT

<213> Homo sapiens

<400> 481

```

Met Thr Pro Thr Asp Phe Thr Ser Pro Ile Pro Asn Met Ala Asp Asp
 1             5             10            15

Tyr Gly Ser Glu Ser Thr Ser Ser Met Glu Asp Tyr Val Asn Phe Asn
      20             25             30

Phe Thr Asp Phe Tyr Cys Glu Lys Asn Asn Val Arg Gln Phe Ala Ser
      35             40             45

His Phe Leu Pro Pro Leu Tyr Trp Leu Val Phe Ile Val Gly Ala Leu
      50             55             60

Gly Asn Ser Leu Val Ile Leu Val Tyr Trp Tyr Cys Thr Arg Val Lys
      65             70             75             80

Thr Met Thr Asp Met Phe Leu Leu Asn Leu Ala Ile Ala Asp Leu Leu
      85             90             95

Phe Leu Val Thr Leu Pro Phe Trp Ala Ile Ala Ala Ala Asp Gln Trp
      100            105            110

Lys Phe Gln Thr Phe Met Cys Lys Val Val Asn Ser Met Tyr Lys Met
      115            120            125

Asn Phe Tyr Ser Cys Val Leu Leu Ile Met Cys Ile Ser Val Asp Arg
      130            135            140

Tyr Ile Ala Ile Ala Gln Ala Met Arg Ala His Thr Trp Arg Glu Lys
      145            150            155            160

```

Arg Leu Leu Tyr Ser Lys Met Val Cys Phe Thr Ile Trp Val Leu Ala
165 170 175

Ala Ala Leu Cys Ile Pro Glu Ile Leu Tyr Ser Gln Ile Lys Glu Glu
180 185 190

Ser Gly Ile Ala Ile Cys Thr Met Val Tyr Pro Ser Asp Glu Ser Thr
195 200 205

Lys Leu Lys Ser Ala Val Leu Thr Leu Lys Val Ile Leu Gly Phe Phe
210 215 220

Leu Pro Phe Val Val Met Ala Cys Cys Tyr Thr Ile Ile Ile His Thr
225 230 235 240

Leu Ile Gln Ala Lys Lys Ser Ser Lys His Lys Ala Lys Lys Val Thr
245 250 255

Ile Thr Val Leu Thr Val Phe Val Leu Ser Gln Phe Pro Tyr Asn Cys
260 265 270

Ile Leu Leu Val Gln Thr Ile Asp Ala Tyr Ala Met Phe Ile Ser Asn
275 280 285

Cys Ala Val Ser Thr Asn Ile Asp Ile Cys Phe Gln Val Thr Gln Thr
290 295 300

Ile Ala Phe Phe His Ser Cys Leu Asn Pro Val Leu Tyr Val Phe Val
305 310 315 320

Gly Glu Arg Phe Arg Arg Asp Leu Val Lys Thr Leu Lys Asn Leu Gly
325 330 335

Cys Ile Ser Gln Ala Gln Trp Val Ser Phe Thr Arg Arg Glu Gly Ser
340 345 350

Leu Lys Leu Ser Ser Met Leu Leu Glu Thr Thr Ser Gly Ala Leu Ser
355 360 365

Leu

<210> 482
<211> 1248
<212> DNA
<213> Homo sapiens

<400> 482
atgggagggc acccgagct cgtctctgct aaggcccttc tccttctggg gctgaacccc 60
gtctctgcct cctccagga ccagcactgc gagagcctgt ccctggccag caacatctca 120
ggactgcagt gcaacgcatt cgtggacctc attggcacct gctggccccg cagccctgcg 180
gggcagctag tgggtcggcc ctgccctgcc ttttctatg gtgtccgcta caataccaca 240
aacaatggct accgggagtg cctggccaat ggcagctggg ccgcccgcgt gaattactcc 300
gagtgccagg agatcctcaa tgaggagaaa aaaagcaagg tgcactacca tgtcgagtc 360
atcatcaact acctgggcca ctgtatctcc ctggtggccc tcctggtggc ctttgtcttc 420

```

tttctgcggc tcaggagcat ccggtgcctg cgaaacatca tccactggaa cctcatctcc 480
gccttcatcc tgcgcaacgc cacctgggtc gtggtccagc taaccatgag ccccgaggtc 540
caccagagca acgtgggctg gtgcagggtg gtgacagccg cctacaacta cttccatgtg 600
accaacttct tctggatggt cggcgagggc tgctacctgc acacagccat cgtgctcacc 660
tactccactg accggctgcg caaatggatg ttcatctgca ttggctgggg tgtgcccttc 720
cccatcattg tggcctgggc cattgggaag ctgtactacg acaatgagaa gtgctggttt 780
ggcaaaaggc ctgggggtga caccgactac atctaccagg gcccacatgat cctggtcctg 840
ctgatcaatt tcatcttcct tttcaacatc gtccgcatcc tcatgaccaa gctccgggca 900
tccaccacgt ctgagaccat tcagtacagg aaggctgtga aagcccctct ggtgctgctg 960
cccctcctgg gcatcaccta catgctgttc ttcgtcaatc ccggggagga tgaggctctcc 1020
cgggtcgtct tcatctactt caactccttc ctggaatcct tccagggctt ctttgtgtct 1080
gtgttctact gtttcctcaa tagtgaggtc cgttctgcc a tccggaagag gtggcaccgg 1140
tggcaggaca agcactcgat ccgtgccga gtggcccgtg ccatgtccat ccccacctcc 1200
ccaacccgtg tcagctttca cagcatcaag cagtccacag cagtctga 1248

```

<210> 483
 <211> 415
 <212> PRT
 <213> Homo sapiens

<400> 483

Met	Gly	Gly	His	Pro	Gln	Leu	Arg	Leu	Val	Lys	Ala	Leu	Leu	Leu	Leu
1				5					10					15	
Gly	Leu	Asn	Pro	Val	Ser	Ala	Ser	Leu	Gln	Asp	Gln	His	Cys	Glu	Ser
			20					25					30		
Leu	Ser	Leu	Ala	Ser	Asn	Ile	Ser	Gly	Leu	Gln	Cys	Asn	Ala	Ser	Val
		35					40					45			
Asp	Leu	Ile	Gly	Thr	Cys	Trp	Pro	Arg	Ser	Pro	Ala	Gly	Gln	Leu	Val
	50					55					60				
Val	Arg	Pro	Cys	Pro	Ala	Phe	Phe	Tyr	Gly	Val	Arg	Tyr	Asn	Thr	Thr
	65				70				75					80	
Asn	Asn	Gly	Tyr	Arg	Glu	Cys	Leu	Ala	Asn	Gly	Ser	Trp	Ala	Ala	Arg
				85					90					95	
Val	Asn	Tyr	Ser	Glu	Cys	Gln	Glu	Ile	Leu	Asn	Glu	Glu	Lys	Lys	Ser
			100					105					110		
Lys	Val	His	Tyr	His	Val	Ala	Val	Ile	Ile	Asn	Tyr	Leu	Gly	His	Cys
		115				120						125			
Ile	Ser	Leu	Val	Ala	Leu	Leu	Val	Ala	Phe	Val	Leu	Phe	Leu	Arg	Leu
		130				135					140				
Arg	Ser	Ile	Arg	Cys	Leu	Arg	Asn	Ile	Ile	His	Trp	Asn	Leu	Ile	Ser
	145				150					155				160	
Ala	Phe	Ile	Leu	Arg	Asn	Ala	Thr	Trp	Phe	Val	Val	Gln	Leu	Thr	Met
			165					170					175		
Ser	Pro	Glu	Val	His	Gln	Ser	Asn	Val	Gly	Trp	Cys	Arg	Leu	Val	Thr
			180					185					190		

Ala	Ala	Tyr	Asn	Tyr	Phe	His	Val	Thr	Asn	Phe	Phe	Trp	Met	Phe	Gly
		195					200					205			
Glu	Gly	Cys	Tyr	Leu	His	Thr	Ala	Ile	Val	Leu	Thr	Tyr	Ser	Thr	Asp
	210					215					220				
Arg	Leu	Arg	Lys	Trp	Met	Phe	Ile	Cys	Ile	Gly	Trp	Gly	Val	Pro	Phe
225					230					235					240
Pro	Ile	Ile	Val	Ala	Trp	Ala	Ile	Gly	Lys	Leu	Tyr	Tyr	Asp	Asn	Glu
				245					250					255	
Lys	Cys	Trp	Phe	Gly	Lys	Arg	Pro	Gly	Val	Tyr	Thr	Asp	Tyr	Ile	Tyr
			260					265					270		
Gln	Gly	Pro	Met	Ile	Leu	Val	Leu	Leu	Ile	Asn	Phe	Ile	Phe	Leu	Phe
		275					280					285			
Asn	Ile	Val	Arg	Ile	Leu	Met	Thr	Lys	Leu	Arg	Ala	Ser	Thr	Thr	Ser
	290					295					300				
Glu	Thr	Ile	Gln	Tyr	Arg	Lys	Ala	Val	Lys	Ala	Pro	Leu	Val	Leu	Leu
305					310					315					320
Pro	Leu	Leu	Gly	Ile	Thr	Tyr	Met	Leu	Phe	Phe	Val	Asn	Pro	Gly	Glu
				325					330					335	
Asp	Glu	Val	Ser	Arg	Val	Val	Phe	Ile	Tyr	Phe	Asn	Ser	Phe	Leu	Glu
			340					345					350		
Ser	Phe	Gln	Gly	Phe	Phe	Val	Ser	Val	Phe	Tyr	Cys	Phe	Leu	Asn	Ser
		355					360					365			
Glu	Val	Arg	Ser	Ala	Ile	Arg	Lys	Arg	Trp	His	Arg	Trp	Gln	Asp	Lys
	370					375					380				
His	Ser	Ile	Arg	Ala	Arg	Val	Ala	Arg	Ala	Met	Ser	Ile	Pro	Thr	Ser
385					390					395					400
Pro	Thr	Arg	Val	Ser	Phe	His	Ser	Ile	Lys	Gln	Ser	Thr	Ala	Val	
				405					410					415	

```
<210> 484
<211> 1059
<212> DNA
<213> Homo sapiens
```


Ile Leu Pro Gly Ile Val Ile Leu Ser Cys Tyr Cys Ile Ile Ile Ser
 210 215 220

Lys Leu Ser His Ser Lys Gly His Gln Lys Arg Lys Ala Lys Lys Thr
 225 230 235 240

Thr Val Ile Leu Ile Leu Ala Phe Phe Ala Cys Trp Leu Pro Tyr Tyr
 245 250 255

Ile Gly Ile Ser Ile Asp Ser Phe Ile Leu Leu Glu Ile Ile Lys Gln
 260 265 270

Gly Cys Glu Phe Glu Asn Thr Val His Lys Trp Ile Ser Ile Thr Glu
 275 280 285

Ala Leu Ala Phe Phe His Cys Cys Leu Asn Pro Ile Leu Tyr Ala Phe
 290 295 300

Leu Gly Ala Lys Phe Lys Thr Ser Ala Gln His Ala Leu Thr Ser Val
 305 310 315 320

Ser Arg Gly Ser Ser Leu Lys Ile Leu Ser Lys Gly Lys Arg Gly Gly
 325 330 335

His Ser Ser Val Ser Thr Glu Ser Glu Ser Ser Ser Phe His Ser Ser
 340 345 350

<210> 486
 <211> 1341
 <212> DNA
 <213> Homo sapiens

<400> 486
 atgaggactc tgaacacctc tgccatggac gggactgggc tgggtggtgga gagggacttc 60
 tctgttogta tctcactgc ctgtttcctg tcgctgctca tcctgtccac gctcctgggg 120
 aacacgctgg tctgtgctgc cgttatcagg ttccgacacc tgcggtccaa ggtgaccaac 180
 ttctttgtca tctccttggc tgtgtcagat ctcttgggtg cgcctcctgg catgccctgg 240
 aaggcagtgg ctgagattgc tggcttcttg ccctttgggt ccttctgtaa catctgggtg 300
 gcctttgaca tcatgtgctc cactgcatcc atcctcaacc tctgtgtgat cagcgtggac 360
 aggtattggg ctatctccag ccctttccgg tatgagagaa agatgacccc caaggcagcc 420
 ttcacctcga tcagtgtggc atggaccttg tctgtactca tctccttcat ccagtgagc 480
 ctgagctggc acaaggcaaa acccacaagc ccctctgatg gaaatgccac ttccctggct 540
 gagaccatag acaactgtga ctccagcctc agcaggacat atgccatctc atcctctgta 600
 ataagctttt acatccctgt ggccatcatg attgtcacct acaccaggat ctacaggatt 660
 gctcagaaac aaatacggcg cattgcgggc ttggagaggg cagcagtcca cgccaagaat 720
 tgccagacca ccacaggtaa tggaaagcct gtcgaatgtt ctcaaccgga aagttctttt 780
 aagatgtcct tcaaaagaga aactaaagtc aagaagactc tgtcgggtgat catgggtgtg 840
 tttgtgtgct gttggctacc tttcttcatc ttgaactgca ttttgccctt ctgtgggtct 900
 ggggagacgc agcccttctg cattgattcc aacacctttg acgtgtttgt gtggtttggg 960
 tgggctaatt catccttgaa ccccatcatt tatgccttta atgctgattt tcggaaggca 1020
 ttttcaaccc tcttaggatg ctacagactt tgccctgcga cgaataatgc catagagacg 1080
 gtgagtatca ataacaatgg ggccgcgatg ttttccagcc atcatgagcc acgaggctcc 1140

```

atctccaagg agtgcaatct ggtttacctg atcccacatg ctgtgggctc ctctgaggac 1200
ctgaaaaagg aggaggcagc tggcatcgcc agacccttgg agaagctgtc cccagcccta 1260
tcggtcatat tggactatga cactgacgtc tctctggaga agatccaacc catgacacaa 1320
aacggtcagc acccaacctg a                                     1341

```

<210> 487
 <211> 446
 <212> PRT
 <213> Homo sapiens

```

<400> 487
Met Arg Thr Leu Asn Thr Ser Ala Met Asp Gly Thr Gly Leu Val Val
  1           5           10          15

Glu Arg Asp Phe Ser Val Arg Ile Leu Thr Ala Cys Phe Leu Ser Leu
      20           25          30

Leu Ile Leu Ser Thr Leu Leu Gly Asn Thr Leu Val Cys Ala Ala Val
      35           40          45

Ile Arg Phe Arg His Leu Arg Ser Lys Val Thr Asn Phe Phe Val Ile
      50           55          60

Ser Leu Ala Val Ser Asp Leu Leu Val Ala Val Leu Val Met Pro Trp
      65           70          75          80

Lys Ala Val Ala Glu Ile Ala Gly Phe Trp Pro Phe Gly Ser Phe Cys
      85           90          95

Asn Ile Trp Val Ala Phe Asp Ile Met Cys Ser Thr Ala Ser Ile Leu
      100          105          110

Asn Leu Cys Val Ile Ser Val Asp Arg Tyr Trp Ala Ile Ser Ser Pro
      115          120          125

Phe Arg Tyr Glu Arg Lys Met Thr Pro Lys Ala Ala Phe Ile Leu Ile
      130          135          140

Ser Val Ala Trp Thr Leu Ser Val Leu Ile Ser Phe Ile Pro Val Gln
      145          150          155          160

Leu Ser Trp His Lys Ala Lys Pro Thr Ser Pro Ser Asp Gly Asn Ala
      165          170          175

Thr Ser Leu Ala Glu Thr Ile Asp Asn Cys Asp Ser Ser Leu Ser Arg
      180          185          190

Thr Tyr Ala Ile Ser Ser Ser Val Ile Ser Phe Tyr Ile Pro Val Ala
      195          200          205

Ile Met Ile Val Thr Tyr Thr Arg Ile Tyr Arg Ile Ala Gln Lys Gln
      210          215          220

Ile Arg Arg Ile Ala Ala Leu Glu Arg Ala Ala Val His Ala Lys Asn
      225          230          235          240

```



```

aagcgagtca acaccaaacg cagcagccga gctttcaggg cccacctgag ggctccacta 720
aagggcaact gtactcaccg cgaggacatg aaactctgca ccgttatcat gaagtctaata 780
gggagtttcc cagtgaacag gcgagagta gaggctgccc ggcgagccca ggagctggag 840
atggagatgc tctccagcac cagcccaccc gagaggaccc ggtacagccc catccctccc 900
agccaccacc agctgactct ccccgaccgg tcccaccatg gtctccacag cactcccgac 960
agccccgcca aaccagagaa gaatgggcat gccaaagacc accccaagat tgccaagatc 1020
tttgagatcc agaccatgcc caatggcaaa acccgaccc cctcaagac catgagccgt 1080
aggaagctct cccagcagaa ggagaagaaa gccaatcaga tgctcgccat tgttctcggc 1140
gtgttcatca tctgctggct gcccttcttc atcacacaca tctgaacat acactgtgac 1200
tgcaacatcc cgcctgtcct gtacagcgcc ttacagtggc tgggctatgt caacagcgcc 1260
gtgaacccca tcatctacac caccttcaac attgagttcc gcaaggcctt cctgaagatc 1320
ctccactgct ga 1332

```

<210> 489
 <211> 443
 <212> PRT
 <213> Homo sapiens

<400> 489

Met	Asp	Pro	Leu	Asn	Leu	Ser	Trp	Tyr	Asp	Asp	Asp	Leu	Glu	Arg	Gln	1	5	10	15
Asn	Trp	Ser	Arg	Pro	Phe	Asn	Gly	Ser	Asp	Gly	Lys	Ala	Asp	Arg	Pro	20	25	30	
His	Tyr	Asn	Tyr	Tyr	Ala	Thr	Arg	Leu	Thr	Leu	Leu	Ile	Ala	Val	Ile	35	40	45	
Val	Phe	Gly	Asn	Val	Leu	Val	Cys	Met	Ala	Val	Ser	Arg	Glu	Lys	Ala	50	55	60	
Leu	Gln	Thr	Thr	Thr	Asn	Tyr	Leu	Ile	Val	Ser	Leu	Ala	Val	Ala	Asp	65	70	75	80
Leu	Leu	Val	Ala	Thr	Leu	Val	Met	Pro	Trp	Val	Val	Tyr	Leu	Glu	Val	85	90	95	
Val	Gly	Glu	Trp	Lys	Phe	Ser	Arg	Ile	His	Cys	Asp	Ile	Phe	Val	Thr	100	105	110	
Leu	Asp	Val	Met	Met	Cys	Thr	Ala	Ser	Ile	Leu	Asn	Leu	Cys	Ala	Ile	115	120	125	
Ser	Ile	Asp	Arg	Tyr	Thr	Ala	Val	Ala	Met	Pro	Met	Leu	Tyr	Asn	Thr	130	135	140	
Arg	Tyr	Ser	Ser	Lys	Arg	Arg	Val	Thr	Val	Met	Ile	Ser	Ile	Val	Trp	145	150	155	160
Val	Leu	Ser	Phe	Thr	Ile	Ser	Cys	Pro	Leu	Leu	Phe	Gly	Leu	Asn	Asn	165	170	175	
Ala	Asp	Gln	Asn	Glu	Cys	Ile	Ile	Ala	Asn	Pro	Ala	Phe	Val	Val	Tyr	180	185	190	
Ser	Ser	Ile	Val	Ser	Phe	Tyr	Val	Pro	Phe	Ile	Val	Thr	Leu	Leu	Val				

	165		170		175										
Asp	Pro	Thr	Val	Cys	Ser	Ile	Ser	Asn	Pro	Asp	Phe	Val	Ile	Tyr	Ser
			180					185					190		
Ser	Val	Val	Ser	Phe	Tyr	Leu	Pro	Phe	Gly	Val	Thr	Val	Leu	Val	Tyr
			195				200						205		
Ala	Arg	Ile	Tyr	Val	Val	Leu	Lys	Gln	Arg	Arg	Arg	Lys	Arg	Ile	Leu
	210					215					220				
Thr	Arg	Gln	Asn	Ser	Gln	Cys	Asn	Ser	Val	Arg	Pro	Gly	Phe	Pro	Gln
225					230					235					240
Gln	Thr	Leu	Ser	Pro	Asp	Pro	Ala	His	Leu	Glu	Leu	Lys	Arg	Tyr	Tyr
				245					250					255	
Ser	Ile	Cys	Gln	Asp	Thr	Ala	Leu	Gly	Gly	Pro	Gly	Phe	Gln	Glu	Arg
			260					265					270		
Gly	Gly	Glu	Leu	Lys	Arg	Glu	Glu	Lys	Thr	Arg	Asn	Ser	Leu	Ser	Pro
		275					280					285			
Thr	Ile	Ala	Pro	Lys	Leu	Ser	Leu	Glu	Val	Arg	Lys	Leu	Ser	Asn	Gly
	290					295					300				
Arg	Leu	Ser	Thr	Ser	Leu	Lys	Leu	Gly	Pro	Leu	Gln	Pro	Arg	Gly	Val
305					310					315					320
Pro	Leu	Arg	Glu	Lys	Lys	Ala	Lys	Gln	Met	Val	Ala	Ile	Val	Leu	Gly
				325					330					335	
Ala	Phe	Ile	Val	Cys	Trp	Leu	Pro	Phe	Phe	Leu	Thr	His	Val	Leu	Asn
			340					345					350		
Thr	His	Cys	Gln	Thr	Cys	His	Val	Ser	Pro	Glu	Leu	Tyr	Ser	Ala	Thr
	355						360					365			
Thr	Trp	Leu	Gly	Tyr	Val	Asn	Ser	Ala	Leu	Asn	Pro	Val	Ile	Tyr	Thr
	370					375					380				
Thr	Phe	Asn	Ile	Glu	Phe	Arg	Lys	Ala	Phe	Leu	Lys	Ile	Leu	Ser	Cys
385					390					395					400

<210> 492
 <211> 1434
 <212> DNA
 <213> Homo sapiens

<400> 492
 atgctgccgc caggcagcaa cggcaccgcg taccgggggc agttcgtct ataccagcag 60
 ctggcgccagg ggaacgccgt ggggggctcg gcgggggcac cgccactggg gccctcacag 120
 gtggtcaccg cctgcctgct gaccctactc atcatctgga ccctgctggg caacgtgctg 180

```

gtgtgcgag ccacgtgag gagccgccac ctgctgcca acatgaccaa cgtcttcac 240
gtgtctctgg ccgtgtctga ccttttctgt gcgtgctgg tcatgccctg gaaggcagtc 300
gccgaggtgg ccggttactg gccctttgga gcgttctgag acgtctgggt ggccttcgac 360
atcatgtgct ccactgcctc catcctgaac ctgtgctgca tcagcgtgga ccgctactgg 420
gccatctcca ggcccttcgg ctacaagcgc aagatgactc agcgcagtcg cttgggtcatg 480
gtcggcctgg catggacctt gtccatcctc atctccttca ttccggtcca gctcaactgg 540
cacagggacc aggcggcctc ttggggcggg ctggacctgc caaacaacct ggccaactgg 600
acgccctggg aggaggactt ttggggagccc gacgtgaatg cagagaactg tgactccagc 660
ctgaatcgaa cctacgccat ctcttcctcg ctcatcagct tctacatccc cgttgccatc 720
atgatcgtga cctacacgag catctaccgc atcgcccagg tgcagatccg caggatttcc 780
tccctggaga gggcgcgaga gcacgcgcag agctgccgga gcagcgcagc ctgctgcccc 840
gacaccagcc tgcgcgcttc catcaagaag gagaccaagg ttaaaaagac cctgtcgggtg 900
atcatggggg tcttctgtgt ttgctggctg ccttcttca tcttaactg catggctcct 960
ttctgcagtg gacaccctga aggccttcgg gccggcttcc cctgctcag tgagaccacc 1020
ttcagcgtct tcgtctggtt cggctgggct aactcctcac tcaaccccg catctatgc 1080
ttcaacgccc actttcagaa ggtgtttgcc cagctgctgg ggtgcagcca cttctgctcc 1140
cgacgcggg tggagacggt gaacatcagc aatgagctca tctctacaa ccaagacatc 1200
gtcttccaca aggaaatcgc agctgcctac atccacatga tgcccaacgc cgttaccccc 1260
ggcaaccggg aggtggacaa cgacgaggag gagggctcct tcgatcgcat gttccagatc 1320
tatcagacgt ccccatgatg tgacctgtt gctgagctg tctgggagct ggactgcgag 1380
ggggagattt ctttagacaa aataacacct ttcacccgga atggattcca ttaa 1434

```

```

<210> 493
<211> 477
<212> PRT
<213> Homo sapiens

```

```

<400> 493
Met Leu Pro Pro Gly Ser Asn Gly Thr Ala Tyr Pro Gly Gln Phe Ala
 1             5             10             15

Leu Tyr Gln Gln Leu Ala Gln Gly Asn Ala Val Gly Gly Ser Ala Gly
      20             25             30

Ala Pro Pro Leu Gly Pro Ser Gln Val Val Thr Ala Cys Leu Leu Thr
      35             40             45

Leu Leu Ile Ile Trp Thr Leu Leu Gly Asn Val Leu Val Cys Ala Ala
      50             55             60

Ile Val Arg Ser Arg His Leu Arg Ala Asn Met Thr Asn Val Phe Ile
      65             70             75             80

Val Ser Leu Ala Val Ser Asp Leu Phe Val Ala Leu Leu Val Met Pro
      85             90             95

Trp Lys Ala Val Ala Glu Val Ala Gly Tyr Trp Pro Phe Gly Ala Phe
      100            105            110

Cys Asp Val Trp Val Ala Phe Asp Ile Met Cys Ser Thr Ala Ser Ile
      115            120            125

Leu Asn Leu Cys Val Ile Ser Val Asp Arg Tyr Trp Ala Ile Ser Arg
      130            135            140

Pro Phe Arg Tyr Lys Arg Lys Met Thr Gln Arg Met Ala Leu Val Met

```


145		150		155		160
Val Gly Leu Ala Trp Thr Leu Ser Ile Leu Ile Ser Phe Ile Pro Val						
		165		170		175
Gln Leu Asn Trp His Arg Asp Gln Ala Ala Ser Trp Gly Gly Leu Asp						
		180		185		190
Leu Pro Asn Asn Leu Ala Asn Trp Thr Pro Trp Glu Glu Asp Phe Trp						
		195		200		205
Glu Pro Asp Val Asn Ala Glu Asn Cys Asp Ser Ser Leu Asn Arg Thr						
		210		215		220
Tyr Ala Ile Ser Ser Ser Leu Ile Ser Phe Tyr Ile Pro Val Ala Ile						
		225		230		235
Met Ile Val Thr Tyr Thr Arg Ile Tyr Arg Ile Ala Gln Val Gln Ile						
		245		250		255
Arg Arg Ile Ser Ser Leu Glu Arg Ala Ala Glu His Ala Gln Ser Cys						
		260		265		270
Arg Ser Ser Ala Ala Cys Ala Pro Asp Thr Ser Leu Arg Ala Ser Ile						
		275		280		285
Lys Lys Glu Thr Lys Val Lys Lys Thr Leu Ser Val Ile Met Gly Val						
		290		295		300
Phe Val Cys Cys Trp Leu Pro Phe Phe Ile Leu Asn Cys Met Val Pro						
		305		310		315
Phe Cys Ser Gly His Pro Glu Gly Pro Pro Ala Gly Phe Pro Cys Val						
		325		330		335
Ser Glu Thr Thr Phe Asp Val Phe Val Trp Phe Gly Trp Ala Asn Ser						
		340		345		350
Ser Leu Asn Pro Val Ile Tyr Ala Phe Asn Ala Asp Phe Gln Lys Val						
		355		360		365
Phe Ala Gln Leu Leu Gly Cys Ser His Phe Cys Ser Arg Thr Pro Val						
		370		375		380
Glu Thr Val Asn Ile Ser Asn Glu Leu Ile Ser Tyr Asn Gln Asp Ile						
		385		390		395
Val Phe His Lys Glu Ile Ala Ala Ala Tyr Ile His Met Met Pro Asn						
		405		410		415
Ala Val Thr Pro Gly Asn Arg Glu Val Asp Asn Asp Glu Glu Glu Gly						
		420		425		430
Pro Phe Asp Arg Met Phe Gln Ile Tyr Gln Thr Ser Pro Asp Gly Asp						
		435		440		445
Pro Val Ala Glu Ser Val Trp Glu Leu Asp Cys Glu Gly Glu Ile Ser						

```

450                               455                               460

Leu Asp Lys Ile Thr Pro Phe Thr Pro Asn Gly Phe His
465                               470                               475

<210> 494
<211> 1284
<212> DNA
<213> Homo sapiens

<400> 494
atggaaaccc tttgcctcag ggcatacctt tggctggcac tggttggatg tgtaatcagt 60
gataatcctg agagatacag cacaaatcta agcaatcatg tggatgattt caccactttt 120
cgtggcacag agctcagctt cctggttacc actcatcaac ccactaattt ggtcctaccc 180
agcaatggct caatgcacaa ctattgcccc cagcagacta aaattacttc agctttcaaa 240
tacattaaca ctgtgatata ttgtactatt ttcacgtgga gaatgggtggg gaatgcaact 300
ctgctcagga tcatttacca gaacaaatgt atgaggaatg gcccacacgc gctgatagcc 360
agtottgccc ttggagacct tatctatgtg gtcattgatc tccctatcaa tgtatttaag 420
ctgctggctg ggcgctggcc ttttgatcac aatgactttg gcgtatttct ttgcaagctg 480
ttcccccttt tgcagaagtc ctcggtgggg atcacctcc tcaacctctg cgctcttagt 540
gttgacaggt acagagcagt tgcctcctgg agtcgtgttc aggaattggg gattcctttg 600
gtaactgcca ttgaaattgt ctccatctgg atcctgtcct ttatcctggc cattcctgaa 660
gcgattggct tcgtcatggt accctttgaa tataggggtg aacagcataa aacctgtatg 720
ctcaatgcca catcaaaatt catggagttc taccaagatg taaaggactg gtggctcttc 780
gggtttctatt tctgtatgcc cttgggtgtg actgcgatct tctacaccct catgacttgt 840
gagatgttga acagaaggaa tggcagcttg agaattgcc tcaagtgaaca tcttaagcag 900
cgtcgagaag tgaaaaaac agttttctgc ttggttgtaa tttttgctct ttgctgggtc 960
cctcttcaact taagccgtat attgaagaaa actgtgtata acgaaatgga caagaaccga 1020
tgtgaattac ttagtttctt actgctcatg gattacatcg gtattaactt ggcaaccatg 1080
aattcatgta taaaccccat agctctgtat ttgtgagca agaaatttaa aaattgtttc 1140
cagtcatgcc tctgctgctg ctgttaccag tccaaaagtc tgatgacctc ggtcccatg 1200
aacggaacaa gcatccagtg gaagaaccac gatcaaaaca accacaacac agaccggagc 1260
agccataagg acagcatgaa ctga                               1284

<210> 495
<211> 427
<212> PRT
<213> Homo sapiens

<400> 495
Met Glu Thr Leu Cys Leu Arg Ala Ser Phe Trp Leu Ala Leu Val Gly
1          5          10          15

Cys Val Ile Ser Asp Asn Pro Glu Arg Tyr Ser Thr Asn Leu Ser Asn
20          25          30

His Val Asp Asp Phe Thr Thr Phe Arg Gly Thr Glu Leu Ser Phe Leu
35          40          45

Val Thr Thr His Gln Pro Thr Asn Leu Val Leu Pro Ser Asn Gly Ser
50          55          60

Met His Asn Tyr Cys Pro Gln Gln Thr Lys Ile Thr Ser Ala Phe Lys
65          70          75          80

```

Tyr	Ile	Asn	Thr	Val	Ile	Ser	Cys	Thr	Ile	Phe	Ile	Val	Gly	Met	Val		
				85					90					95			
Gly	Asn	Ala	Thr	Leu	Leu	Arg	Ile	Ile	Tyr	Gln	Asn	Lys	Cys	Met	Arg		
			100					105					110				
Asn	Gly	Pro	Asn	Ala	Leu	Ile	Ala	Ser	Leu	Ala	Leu	Gly	Asp	Leu	Ile		
		115					120					125					
Tyr	Val	Val	Ile	Asp	Leu	Pro	Ile	Asn	Val	Phe	Lys	Leu	Leu	Ala	Gly		
	130					135					140						
Arg	Trp	Pro	Phe	Asp	His	Asn	Asp	Phe	Gly	Val	Phe	Leu	Cys	Lys	Leu		
145					150					155					160		
Phe	Pro	Phe	Leu	Gln	Lys	Ser	Ser	Val	Gly	Ile	Thr	Val	Leu	Asn	Leu		
			165						170						175		
Cys	Ala	Leu	Ser	Val	Asp	Arg	Tyr	Arg	Ala	Val	Ala	Ser	Trp	Ser	Arg		
			180					185					190				
Val	Gln	Gly	Ile	Gly	Ile	Pro	Leu	Val	Thr	Ala	Ile	Glu	Ile	Val	Ser		
		195					200					205					
Ile	Trp	Ile	Leu	Ser	Phe	Ile	Leu	Ala	Ile	Pro	Glu	Ala	Ile	Gly	Phe		
	210					215					220						
Val	Met	Val	Pro	Phe	Glu	Tyr	Arg	Gly	Glu	Gln	His	Lys	Thr	Cys	Met		
225					230					235					240		
Leu	Asn	Ala	Thr	Ser	Lys	Phe	Met	Glu	Phe	Tyr	Gln	Asp	Val	Lys	Asp		
				245					250					255			
Trp	Trp	Leu	Phe	Gly	Phe	Tyr	Phe	Cys	Met	Pro	Leu	Val	Cys	Thr	Ala		
			260					265					270				
Ile	Phe	Tyr	Thr	Leu	Met	Thr	Cys	Glu	Met	Leu	Asn	Arg	Arg	Asn	Gly		
		275					280					285					
Ser	Leu	Arg	Ile	Ala	Leu	Ser	Glu	His	Leu	Lys	Gln	Arg	Arg	Glu	Val		
	290					295					300						
Lys	Lys	Thr	Val	Phe	Cys	Leu	Val	Val	Ile	Phe	Ala	Leu	Cys	Trp	Phe		
305					310					315					320		
Pro	Leu	His	Leu	Ser	Arg	Ile	Leu	Lys	Lys	Thr	Val	Tyr	Asn	Glu	Met		
				325					330					335			
Asp	Lys	Asn	Arg	Cys	Glu	Leu	Leu	Ser	Phe	Leu	Leu	Leu	Met	Asp	Tyr		
			340					345					350				
Ile	Gly	Ile	Asn	Leu	Ala	Thr	Met	Asn	Ser	Cys	Ile	Asn	Pro	Ile	Ala		
		355					360					365					
Leu	Tyr	Phe	Val	Ser	Lys	Lys	Phe	Lys	Asn	Cys	Phe	Gln	Ser	Cys	Leu		
	370					375					380						

Cys Cys Cys Cys Tyr Gln Ser Lys Ser Leu Met Thr Ser Val Pro Met
385 390 395 400

Asn Gly Thr Ser Ile Gln Trp Lys Asn His Asp Gln Asn Asn His Asn
405 410 415

Thr Asp Arg Ser Ser His Lys Asp Ser Met Asn
420 425

<210> 496
<211> 1329
<212> DNA
<213> Homo sapiens

<400> 496
atgcagccgc ctccaagtct gtgcggacgc gccctggttg cgctggttct tgcctgoggc 60
ctgtcgcgga tctggggaga ggagagaggc ttcccgcccg acagggccac tccgcttttg 120
caaacgcgag agataatgac gccaccact aagaccttat ggcccaaggg ttccaacgcc 180
agtctggcgc ggtcggttggc acctgcgag gtgcctaaag gagacaggac ggcaggatct 240
ccgccacgca ccatctcccc tccccgtgc caaggaccca tcgagatcaa ggagactttc 300
aaatacatca acacggttgt gtctgcctt gtgttcgtgc tggggatcat cgggaactcc 360
acactttctga gaattatcta caagaacaag tgcattgcga acggtcccaa tatcttgatc 420
gccagcttgg ctctgggaga cctgctgcac atcgtcattg acatccctat caatgtctac 480
aagctgctgg cagaggactg gccatttgga gctgagatgt gtaagctggt gcctttcata 540
cagaaagcct ccgtgggaat cactgtgctg agtctatgtg ctctgagtat tgacagatat 600
cgagctgttg cttcttgagg tagaattaaa ggaattgggg ttccaaaatg gacagcagta 660
gaaattgttt tgatttgggt ggtctctgtg gttctggctg tccctgaagc cataggtttt 720
gatataatta cgatggacta caaaggaagt tatctgcgaa tctgcttgct tcatcccggt 780
cagaagacag ctttcatgca gttttacaag acagcaaaag attggtggct gttcagtttc 840
tatttctgct tgccattggc catcactgca tttttttata cactaatgac ctgtgaaatg 900
ttgagaaaga aaagtggcat gcagattgct ttaaattgatc acctaaagca gagacgggaa 960
gtgaagaaaa ccgtcttttg cctggctcctt gtctttgccc tctgctggct tccccttcac 1020
ctcagcagga ttctgaagct cactctttat aatcagaatg atcccaatag atgtgaactt 1080
ttgagctttc tgttgggtatt ggactatatt ggtatcaaca tggcttcact gaattcctgc 1140
attaacccaa ttgctctgta tttgggtgagc aaaagattca aaaactgctt taagtcatgc 1200
ttatgctgct ggtgccagtc atttgaagaa aaacagtcct tggaggaaaa gcagtcgtgc 1260
ttaaagttca aagctaataga tcacggatat gacaacttcc gttccagtaa taaatacagc 1320
tcattctga 1329

<210> 497
<211> 442
<212> PRT
<213> Homo sapiens

<400> 497
Met Gln Pro Pro Pro Ser Leu Cys Gly Arg Ala Leu Val Ala Leu Val
1 5 10 15
Leu Ala Cys Gly Leu Ser Arg Ile Trp Gly Glu Glu Arg Gly Phe Pro
20 25 30
Pro Asp Arg Ala Thr Pro Leu Leu Gln Thr Ala Glu Ile Met Thr Pro
35 40 45
Pro Thr Lys Thr Leu Trp Pro Lys Gly Ser Asn Ala Ser Leu Ala Arg

355 360 365
Tyr Ile Gly Ile Asn Met Ala Ser Leu Asn Ser Cys Ile Asn Pro Ile
370 375 380
Ala Leu Tyr Leu Val Ser Lys Arg Phe Lys Asn Cys Phe Lys Ser Cys
385 390 395 400
Leu Cys Cys Trp Cys Gln Ser Phe Glu Glu Lys Gln Ser Leu Glu Glu
405 410 415
Lys Gln Ser Cys Leu Lys Phe Lys Ala Asn Asp His Gly Tyr Asp Asn
420 425 430
Phe Arg Ser Ser Asn Lys Tyr Ser Ser Ser
435 440

<210> 498
<211> 1053
<212> DNA
<213> Homo sapiens

<400> 498
atggagacaa attcctctct cccacgaac atctctggag ggacacctgc tgtatctgct 60
ggctatctct tcctggatat catcacttat ctggattttg cagtcacctt tgcctcggg 120
gtcctgggca acgggcttgt gatctgggtg gctggattcc ggatgacaca cacagtcacc 180
accatcagtt acctgaacct ggccgtggct gacttctgtt tcacctccac tttgccattc 240
ttcatgggtca ggaaggccat gggaggacat tggcctttcg gctggttcct gtgcaaattc 300
gtctttacca tagtggacat caacttggtc ggaagtgtct tcctgatcgc cctcattgct 360
ctggaccgct gtgtttgct cctgcatcca gtctggacct agaaccaccg caccgtgagc 420
ctggccaaga aggtgatcat tgggccctgg gtgatggctc tgctcctcac attgccagtt 480
atcattcgtg tgactacagt acctggtaaa acggggacag tagcctgcac ttttaacttt 540
tcgccctgga ccaacgacct taaagagagg ataaatgtgg ccgttgccat gttgacggtg 600
agaggcatca tccggttcat cattggcttc agcgcaccca tgtccatcgt tgctgtcagt 660
tatgggctta ttgccaccaa gatccacaag caaggcttga ttaagtccag tcgtcccaaa 720
cgggtcctct cctttgtcgc agcagccttt tttctctgct ggtccccata tcagggtggtg 780
gcccttatag ccacagtcag aatccgtgag ttattgcaag gcatgtacaa agaaattggt 840
attgcagtgg atgtgacaag tgccctggcc ttcttcaaca gctgcctcaa ccccatgctc 900
tatgtcttca tgggccagga ctccggggag aggctgatcc acgcccttcc cggcagttctg 960
gagaggggccc tgaccgagga ctcaacccaa accagtgaca cagctaccaa ttctacttta 1020
ccttctgcag aggtggagtt acaggcaaaag tga 1053

<210> 499
<211> 350
<212> PRT
<213> Homo sapiens

<400> 499
Met Glu Thr Asn Ser Ser Leu Pro Thr Asn Ile Ser Gly Gly Thr Pro
1 5 10 15
Ala Val Ser Ala Gly Tyr Leu Phe Leu Asp Ile Ile Thr Tyr Leu Val
20 25 30
Phe Ala Val Thr Phe Val Leu Gly Val Leu Gly Asn Gly Leu Val Ile

340

345

350

<210> 500
 <211> 1056
 <212> DNA
 <213> Homo sapiens

<400> 500
 atggaaacca acttctccac tcctctgaat gaatatgaag aagtgtccta tgagtctgct 60
 ggctacactg ttctgcggtat cctcccattg gtggtgcttg ggtcacctt tgtcctcggg 120
 gtcttgggca atgggcttgt gatctgggtg gctggattcc ggatgacacg cacagtcacc 180
 accatctgtt acctgaacct ggccctggct gacttttctt tcacggccac attaccattc 240
 ctcatctgtc ccatggccat gggagaaaaa tggccttttg gctggttcct gtgtaagtta 300
 attcacatcg tggtagacat caacctcttt ggaagtgtct tcttgattgg ttccattgca 360
 ctggaccgct gcatttgtgt cctgcatcca gtctggggcc agaaccaccg cactgtgagt 420
 ctggccatga aggtgatcgt cggaccttgg attcttgctc tagtccttac cttgccagtt 480
 ttctcttttt tgactacagt aactattcca aatggggaca catactgtac tttcaacttt 540
 gcactctggg gtggcaccac tgaggagagg ctgaagggtg ccattaccat gctgacagcc 600
 agagggatta tccggtttgt cattggcttt agcttgccga tgtccattgt tgccatctgc 660
 tatgggctca ttgcagccaa gatccacaaa aagggcata ttaaatccag ccgtcccaaa 720
 cgggtcctca ctgctgtggt ggcttctttc ttcactgtgt ggtttccctt tcaactgggt 780
 gcccttcttg gcaccgtctg gctcaaagag atgttgttct atggcaagta caaaatcatt 840
 gacatcctgg ttaacccaac gagctccctg gccttcttca acagctgcct caaccccatg 900
 ctttaoctgt ttgtggggca agacttccga gagagactga tccactccct gccaccaggt 960
 ctggagaggg ccctgtctga ggactcagcc ccaactaatg acacggctgc caattctgct 1020
 tcacctcctg cagagactga gttacaggca atgtga 1056

<210> 501
 <211> 351
 <212> PRT
 <213> Homo sapiens

<400> 501
 Met Glu Thr Asn Phe Ser Thr Pro Leu Asn Glu Tyr Glu Glu Val Ser
 1 5 10 15
 Tyr Glu Ser Ala Gly Tyr Thr Val Leu Arg Ile Leu Pro Leu Val Val
 20 25 30
 Leu Gly Val Thr Phe Val Leu Gly Val Leu Gly Asn Gly Leu Val Ile
 35 40 45
 Trp Val Ala Gly Phe Arg Met Thr Arg Thr Val Thr Thr Ile Cys Tyr
 50 55 60
 Leu Asn Leu Ala Leu Ala Asp Phe Ser Phe Thr Ala Thr Leu Pro Phe
 65 70 75 80
 Leu Ile Val Ser Met Ala Met Gly Glu Lys Trp Pro Phe Gly Trp Phe
 85 90 95
 Leu Cys Lys Leu Ile His Ile Val Val Asp Ile Asn Leu Phe Gly Ser
 100 105 110
 Val Phe Leu Ile Gly Phe Ile Ala Leu Asp Arg Cys Ile Cys Val Leu

115	120	125
His Pro Val Trp Ala Gln Asn	His Arg Thr Val Ser Leu Ala Met Lys	
130	135	140
Val Ile Val Gly Pro Trp Ile Leu Ala Leu Val Leu Thr Leu Pro Val		
145	150	155
Phe Leu Phe Leu Thr Thr Val Thr Ile Pro Asn Gly Asp Thr Tyr Cys		
	165	170
Thr Phe Asn Phe Ala Ser Trp Gly Gly Thr Pro Glu Glu Arg Leu Lys		
	180	185
Val Ala Ile Thr Met Leu Thr Ala Arg Gly Ile Ile Arg Phe Val Ile		
	195	200
Gly Phe Ser Leu Pro Met Ser Ile Val Ala Ile Cys Tyr Gly Leu Ile		
	210	215
Ala Ala Lys Ile His Lys Lys Gly Met Ile Lys Ser Ser Arg Pro Lys		
	225	230
Arg Val Leu Thr Ala Val Val Ala Ser Phe Phe Ile Cys Trp Phe Pro		
	245	250
Phe Gln Leu Val Ala Leu Leu Gly Thr Val Trp Leu Lys Glu Met Leu		
	260	265
Phe Tyr Gly Lys Tyr Lys Ile Ile Asp Ile Leu Val Asn Pro Thr Ser		
	275	280
Ser Leu Ala Phe Phe Asn Ser Cys Leu Asn Pro Met Leu Tyr Val Phe		
	290	295
Val Gly Gln Asp Phe Arg Glu Arg Leu Ile His Ser Leu Pro Thr Ser		
	305	310
Leu Glu Arg Ala Leu Ser Glu Asp Ser Ala Pro Thr Asn Asp Thr Ala		
	325	330
Ala Asn Ser Ala Ser Pro Pro Ala Glu Thr Glu Leu Gln Ala Met		
	340	345
		350

<210> 502

<211> 1050

<212> DNA

<213> Homo sapiens

<400> 502

```

atggagctgg cggtcgggaa cctcagcgag ggcaacgcga gctgtccgga gcccccgcc 60
ccggagcccg ggccgctgtt cggcatcggc gtggagaact tcgtcacgct ggtggtgttc 120
ggcctgatct tcgcgctggg cgtgctgggc aacagcctag tgatcaccgt gctggcgcgc 180
agcaagccgg gcaagccgcg gagcaccacc aacctgttca tcctcaacct gagcatcgcc 240
gacctggcct acctgtcttt ctgcatcccc ttccaggcca ccgtgtacgc gctgcccacc 300
tgggtgctgg gcgccttcat ctgcaagttc atccactact tcttcacogt gtccatgctg 360

```

```

gtgagcatct tcacctggc cgcgatgtcc gtggaccgct acgtggccat cgtgcaactcg 420
cggcgctcct cctccctcag ggtgtcccgc aacgcgctgc tgggcgtggg ctgcatctgg 480
gcgctgtcca ttgccatggc ctgcgccgtg gcctaccacc agggcctctt ccacccgcgc 540
gccagcaacc agaccttctg ctgggagcag tggcccgacc ctgcgcacaa gaaggcctac 600
gtggtgtgca ccttcgtctt cggctacctg ctgccgctcc tgctcatctg cttctgctat 660
gccaaggtcc ttaatcactt gcataaaaag ttgaagaaca tgtcaaagaa gtctgaagca 720
tccaagaaaa agactaaaca gacagttctg gtggtggttg tgggtgtttgg aatctcctgg 780
ctgccgcacc acatcatcca tctctgggct gagtttgag ttttcccgt gacgcgggct 840
tccttcctct tcagaatcac cgcccactgc ctggcgtaca gcaattcctc cgtgaatcct 900
atcatttatg catttctctc tgaaaatttc aggaaggcct ataaacaagt gttcaagtgt 960
cacattcgca aagattcaca cctgagtgat actaaagaaa ataaaagtcg aatagacacc 1020
ccaccatcaa ccaattgtac tcatgtgtga                                     1050

```

<210> 503
 <211> 349
 <212> PRT
 <213> Homo sapiens

```

<400> 503
Met Glu Leu Ala Val Gly Asn Leu Ser Glu Gly Asn Ala Ser Cys Pro
  1                      5                      10                      15

Glu Pro Pro Ala Pro Glu Pro Gly Pro Leu Phe Gly Ile Gly Val Glu
          20                      25                      30

Asn Phe Val Thr Leu Val Val Phe Gly Leu Ile Phe Ala Leu Gly Val
          35                      40                      45

Leu Gly Asn Ser Leu Val Ile Thr Val Leu Ala Arg Ser Lys Pro Gly
          50                      55                      60

Lys Pro Arg Ser Thr Thr Asn Leu Phe Ile Leu Asn Leu Ser Ile Ala
          65                      70                      75                      80

Asp Leu Ala Tyr Leu Leu Phe Cys Ile Pro Phe Gln Ala Thr Val Tyr
          85                      90                      95

Ala Leu Pro Thr Trp Val Leu Gly Ala Phe Ile Cys Lys Phe Ile His
          100                      105                      110

Tyr Phe Phe Thr Val Ser Met Leu Val Ser Ile Phe Thr Leu Ala Ala
          115                      120                      125

Met Ser Val Asp Arg Tyr Val Ala Ile Val His Ser Arg Arg Ser Ser
          130                      135                      140

Ser Leu Arg Val Ser Arg Asn Ala Leu Leu Gly Val Gly Cys Ile Trp
          145                      150                      155                      160

Ala Leu Ser Ile Ala Met Ala Ser Pro Val Ala Tyr His Gln Gly Leu
          165                      170                      175

Phe His Pro Arg Ala Ser Asn Gln Thr Phe Cys Trp Glu Gln Trp Pro
          180                      185                      190

Asp Pro Arg His Lys Lys Ala Tyr Val Val Cys Thr Phe Val Phe Gly

```


<210> 505
 <211> 387
 <212> PRT
 <213> Homo sapiens

<400> 505

Met	Asn	Val	Ser	Gly	Cys	Pro	Gly	Ala	Gly	Asn	Ala	Ser	Gln	Ala	Gly
1				5					10					15	
Gly	Gly	Gly	Gly	Trp	His	Pro	Glu	Ala	Val	Ile	Val	Pro	Leu	Leu	Phe
			20					25					30		
Ala	Leu	Ile	Phe	Leu	Val	Gly	Thr	Val	Gly	Asn	Thr	Leu	Val	Leu	Ala
		35					40					45			
Val	Leu	Leu	Arg	Gly	Gly	Gln	Ala	Val	Ser	Thr	Thr	Asn	Leu	Phe	Ile
	50					55					60				
Leu	Asn	Leu	Gly	Val	Ala	Asp	Leu	Cys	Phe	Ile	Leu	Cys	Cys	Val	Pro
65					70					75					80
Phe	Gln	Ala	Thr	Ile	Tyr	Thr	Leu	Asp	Gly	Trp	Val	Phe	Gly	Ser	Leu
				85					90					95	
Leu	Cys	Lys	Ala	Val	His	Phe	Leu	Ile	Phe	Leu	Thr	Met	His	Ala	Ser
			100					105					110		
Ser	Phe	Thr	Leu	Ala	Ala	Val	Ser	Leu	Asp	Arg	Tyr	Leu	Ala	Ile	Arg
		115					120					125			
Tyr	Pro	Leu	His	Ser	Arg	Glu	Leu	Arg	Thr	Pro	Arg	Asn	Ala	Leu	Ala
	130					135						140			
Ala	Ile	Gly	Leu	Ile	Trp	Gly	Leu	Ser	Leu	Leu	Phe	Ser	Gly	Pro	Tyr
145					150					155					160
Leu	Ser	Tyr	Tyr	Arg	Gln	Ser	Gln	Leu	Ala	Asn	Leu	Thr	Val	Cys	His
				165					170					175	
Pro	Ala	Trp	Ser	Ala	Pro	Arg	Arg	Arg	Ala	Met	Asp	Ile	Cys	Thr	Phe
			180					185					190		
Val	Phe	Ser	Tyr	Leu	Leu	Pro	Val	Leu	Val	Leu	Gly	Leu	Thr	Tyr	Ala
		195				200						205			
Arg	Thr	Leu	Arg	Tyr	Leu	Trp	Arg	Ala	Val	Asp	Pro	Val	Ala	Ala	Gly
	210					215					220				
Ser	Gly	Ala	Arg	Arg	Ala	Lys	Arg	Lys	Val	Lys	Arg	Met	Ile	Leu	Ile
225					230					235					240
Val	Ala	Ala	Leu	Phe	Cys	Leu	Cys	Trp	Met	Pro	His	His	Ala	Leu	Ile
			245						250					255	
Leu	Cys	Val	Trp	Phe	Gly	Gln	Phe	Pro	Leu	Thr	Arg	Ala	Thr	Tyr	Ala
		260						265					270		

Leu Arg Ile Leu Ser His Leu Val Ser Tyr Ala Asn Ser Cys Val Asn
 275 280 285

Pro Ile Val Tyr Ala Leu Val Ser Lys His Phe Arg Lys Gly Phe Arg
 290 295 300

Thr Ile Cys Ala Gly Leu Leu Gly Arg Ala Pro Gly Arg Ala Ser Gly
 305 310 315 320

Arg Val Cys Ala Ala Ala Arg Gly Thr His Ser Gly Ser Val Leu Glu
 325 330 335

Arg Glu Ser Ser Asp Leu Leu His Met Ser Glu Ala Ala Gly Ala Leu
 340 345 350

Arg Pro Cys Pro Gly Ala Ser Gln Pro Cys Ile Leu Glu Pro Cys Pro
 355 360 365

Gly Pro Ser Trp Gln Gly Pro Lys Ala Gly Asp Ser Ile Leu Thr Val
 370 375 380

Asp Val Ala
 385

<210> 506
 <211> 1401
 <212> DNA
 <213> Homo sapiens

<400> 506
 atgactacct ctccgatact gcagctgctg ctgcggctct cactgtgcgg gctgctgctc 60
 cagagggcgg agacaggctc taaggggcag acggcggggg agctgtacca gcgctgggaa 120
 cggtaaccgca gggagtgccca ggagaccttg gcagccgcgg aaccgccttc aggcctcgcc 180
 tgtaacgggt ccttcgatata gtacgtctgc tgggactatg ctgcacccaa tgccactgcc 240
 cgtgcgtcct gcccttggtta cctgcccttg caccaccatg tggctgcagg ttctgctcctc 300
 cgccagtgtg gcagtgatgg ccaatgggga ctttgagag accatacaca atgtgagaac 360
 ccagagaaga atgaggcctt tctggaccaaa aggtcatct tggagcgggt gcaggatcatg 420
 tacactgtcg gctactccct gtctctcgcc acactgctgc tagccctgct catcttgagt 480
 ttgttcaggc ggctacattg cactagaaac tatatccaca tcaacctgtt cacgtctttc 540
 atgctgcgag ctgcggccat tctcagccga gaccgtctgc tacctcgacc tggcccctac 600
 cttggggacc aggccttgc gctgtggaac caggccctcg ctgcctgccg cacggcccag 660
 atcgtgaccc agtactgcgt ggggtgccaac tacacgtggc tgcgtgtgga gggcgtctac 720
 ctgcacagtc tcttggtgct cgtgggaggc tccgaggagg gccacttccg ctactacctg 780
 ctctcgggt ggggggcccc cgcgcttttc gtcattccct gggatgctg caggtaacctg 840
 tacgagaaca cgcagtgtg ggagcgcaac gaagtcaagg ccatttggtg gattatacgg 900
 acccccatcc tcatgacct cttgattaat ttctcattt ttatccgat tcttggcatt 960
 ctctgtcca agctgaggac acggcaaatg cgtgcgggg attaccggt gaggctgggt 1020
 cgctccccgc tgacgtggt gccctgctg ggtgtccacg aggtggtgtt tgcctccgtg 1080
 acagaggaac aggcgcgggg cgcctgcgc ttcgccaagc tcggctttga gatcttctc 1140
 agctccttcc agggcttctt ggtcagcgtc ctctactgct tcatcaacaa ggaggtgcag 1200
 tcggagatcc gccgtggctg gcaccactgc cgcctgcgcc gcagcctggg cgaggagcaa 1260
 cgccagctcc cggagcgcgc ctccggggcc ctgccctccg gctccggccc gggcgaggtc 1320
 cccaccagcc gcggcttgct ctccggggacc ctcccagggc ctgggaatga ggccagccgg 1380
 gaggttgaaa gttactgcta g 1401

<210> 507
 <211> 466
 <212> PRT
 <213> Homo sapiens

<400> 507

Met	Thr	Thr	Ser	Pro	Ile	Leu	Gln	Leu	Leu	Leu	Arg	Leu	Ser	Leu	Cys
1				5					10					15	
Gly	Leu	Leu	Leu	Gln	Arg	Ala	Glu	Thr	Gly	Ser	Lys	Gly	Gln	Thr	Ala
			20					25					30		
Gly	Glu	Leu	Tyr	Gln	Arg	Trp	Glu	Arg	Tyr	Arg	Arg	Glu	Cys	Gln	Glu
		35					40					45			
Thr	Leu	Ala	Ala	Ala	Glu	Pro	Pro	Ser	Gly	Leu	Ala	Cys	Asn	Gly	Ser
	50					55					60				
Phe	Asp	Met	Tyr	Val	Cys	Trp	Asp	Tyr	Ala	Ala	Pro	Asn	Ala	Thr	Ala
65					70				75					80	
Arg	Ala	Ser	Cys	Pro	Trp	Tyr	Leu	Pro	Trp	His	His	His	Val	Ala	Ala
				85					90					95	
Gly	Phe	Val	Leu	Arg	Gln	Cys	Gly	Ser	Asp	Gly	Gln	Trp	Gly	Leu	Trp
			100					105					110		
Arg	Asp	His	Thr	Gln	Cys	Glu	Asn	Pro	Glu	Lys	Asn	Glu	Ala	Phe	Leu
		115					120					125			
Asp	Gln	Arg	Leu	Ile	Leu	Glu	Arg	Leu	Gln	Val	Met	Tyr	Thr	Val	Gly
	130					135					140				
Tyr	Ser	Leu	Ser	Leu	Ala	Thr	Leu	Leu	Leu	Ala	Leu	Leu	Ile	Leu	Ser
145					150					155					160
Leu	Phe	Arg	Arg	Leu	His	Cys	Thr	Arg	Asn	Tyr	Ile	His	Ile	Asn	Leu
				165					170					175	
Phe	Thr	Ser	Phe	Met	Leu	Arg	Ala	Ala	Ala	Ile	Leu	Ser	Arg	Asp	Arg
			180				185						190		
Leu	Leu	Pro	Arg	Pro	Gly	Pro	Tyr	Leu	Gly	Asp	Gln	Ala	Leu	Ala	Leu
		195					200					205			
Trp	Asn	Gln	Ala	Leu	Ala	Ala	Cys	Arg	Thr	Ala	Gln	Ile	Val	Thr	Gln
	210					215					220				
Tyr	Cys	Val	Gly	Ala	Asn	Tyr	Thr	Trp	Leu	Leu	Val	Glu	Gly	Val	Tyr
225					230					235					240
Leu	His	Ser	Leu	Leu	Val	Leu	Val	Gly	Gly	Ser	Glu	Glu	Gly	His	Phe
			245						250					255	
Arg	Tyr	Tyr	Leu	Leu	Leu	Gly	Trp	Gly	Ala	Pro	Ala	Leu	Phe	Val	Ile
			260					265					270		

Pro Trp Val Ile Val Arg Tyr Leu Tyr Glu Asn Thr Gln Cys Trp Glu
 275 280 285

Arg Asn Glu Val Lys Ala Ile Trp Trp Ile Ile Arg Thr Pro Ile Leu
 290 295 300

Met Thr Ile Leu Ile Asn Phe Leu Ile Phe Ile Arg Ile Leu Gly Ile
 305 310 315 320

Leu Leu Ser Lys Leu Arg Thr Arg Gln Met Arg Cys Arg Asp Tyr Arg
 325 330 335

Leu Arg Leu Ala Arg Ser Pro Leu Thr Leu Val Pro Leu Leu Gly Val
 340 345 350

His Glu Val Val Phe Ala Pro Val Thr Glu Glu Gln Ala Arg Gly Ala
 355 360 365

Leu Arg Phe Ala Lys Leu Gly Phe Glu Ile Phe Leu Ser Ser Phe Gln
 370 375 380

Gly Phe Leu Val Ser Val Leu Tyr Cys Phe Ile Asn Lys Glu Val Gln
 385 390 395 400

Ser Glu Ile Arg Arg Gly Trp His His Cys Arg Leu Arg Arg Ser Leu
 405 410 415

Gly Glu Glu Gln Arg Gln Leu Pro Glu Arg Ala Phe Arg Ala Leu Pro
 420 425 430

Ser Gly Ser Gly Pro Gly Glu Val Pro Thr Ser Arg Gly Leu Ser Ser
 435 440 445

Gly Thr Leu Pro Gly Pro Gly Asn Glu Ala Ser Arg Glu Leu Glu Ser
 450 455 460

Tyr Cys
 465

<210> 508
 <211> 1002
 <212> DNA
 <213> Homo sapiens

<400> 508
 atggagtcct caggcaaccc agagagcacc accttttttt actatgacct tcagagccag 60
 ccgtgtgaga accaggcctg ggtcttttgc accctcgcca ccactgtcct gtactgcctg 120
 gtgtttctcc tcagcctagt gggcaacagc ctggctctgt gggctcctgt gaagtatgag 180
 agcctggagt cctcaccac catcttcatc ctcaacctgt gcctctcaga cctgggtgtc 240
 gcctgcttgt tgctgtgtg gatctcccca taccactggg gctgggtgct gggagacttc 300
 ctctgcaaac tcctcaatat gatcttctcc atcagcctct acagcagcat cttcttctctg 360
 accatcatga ccatccaccg ctacctgtcg gtagtgagcc ccctctccac cctgcgcgtc 420
 cccaccctcc gctgccgggt gctggtgacc atggctgtgt gggtagccag catcctgtcc 480
 tccatcctcg acaccatctt ccacaagggt ctttcttcgg gctgtgatta ttccgaactc 540
 acgtggtacc tcacctcctg ctaccagcac aacctcttct tcctgctgtc cctggggatt 600

```

atcctgttct gctacgtgga gatcctcagg accotgttcc gctcacgctc caagcggcgc 660
caccgcacga aaaagctcat ctctgccatc gtgggtggcct acttcctcag ctgggggtccc 720
tacaacttca ccctgtttct gcagacgctg tttcggaccc agatcatccg gagctgcgag 780
gccaaacagc agctagaata cgccttgctc atctgccgca acctcgcctt ctcccactgc 840
tgctttaacc cgggtgctcta tgtcttcgtg ggggtcaagt tccgcacaca cctgaaacat 900
gttctccggc agttctgggt ctgcgggctg caggcaccca gccagcctc gatccccac 960
tcccctgggtg ccttcgccta tgaggggcgc tccttctact ga 1002

```

<210> 509

<211> 333

<212> PRT

<213> Homo sapiens

<400> 509

```

Met Glu Ser Ser Gly Asn Pro Glu Ser Thr Thr Phe Phe Tyr Tyr Asp
  1              5              10              15

Leu Gln Ser Gln Pro Cys Glu Asn Gln Ala Trp Val Phe Ala Thr Leu
      20              25              30

Ala Thr Thr Val Leu Tyr Cys Leu Val Phe Leu Leu Ser Leu Val Gly
      35              40              45

Asn Ser Leu Val Leu Trp Val Leu Val Lys Tyr Glu Ser Leu Glu Ser
      50              55              60

Leu Thr Asn Ile Phe Ile Leu Asn Leu Cys Leu Ser Asp Leu Val Phe
      65              70              75              80

Ala Cys Leu Leu Pro Val Trp Ile Ser Pro Tyr His Trp Gly Trp Val
      85              90              95

Leu Gly Asp Phe Leu Cys Lys Leu Leu Asn Met Ile Phe Ser Ile Ser
      100              105              110

Leu Tyr Ser Ser Ile Phe Phe Leu Thr Ile Met Thr Ile His Arg Tyr
      115              120              125

Leu Ser Val Val Ser Pro Leu Ser Thr Leu Arg Val Pro Thr Leu Arg
      130              135              140

Cys Arg Val Leu Val Thr Met Ala Val Trp Val Ala Ser Ile Leu Ser
      145              150              155              160

Ser Ile Leu Asp Thr Ile Phe His Lys Val Leu Ser Ser Gly Cys Asp
      165              170              175

Tyr Ser Glu Leu Thr Trp Tyr Leu Thr Ser Val Tyr Gln His Asn Leu
      180              185              190

Phe Phe Leu Leu Ser Leu Gly Ile Ile Leu Phe Cys Tyr Val Glu Ile
      195              200              205

Leu Arg Thr Leu Phe Arg Ser Arg Ser Lys Arg Arg His Arg Thr Lys
      210              215              220

```


Lys Leu Ile Phe Ala Ile Val Val Ala Tyr Phe Leu Ser Trp Gly Pro
 225 230 235 240
 Tyr Asn Phe Thr Leu Phe Leu Gln Thr Leu Phe Arg Thr Gln Ile Ile
 245 250 255
 Arg Ser Cys Glu Ala Lys Gln Gln Leu Glu Tyr Ala Leu Leu Ile Cys
 260 265 270
 Arg Asn Leu Ala Phe Ser His Cys Cys Phe Asn Pro Val Leu Tyr Val
 275 280 285
 Phe Val Gly Val Lys Phe Arg Thr His Leu Lys His Val Leu Arg Gln
 290 295 300
 Phe Trp Phe Cys Arg Leu Gln Ala Pro Ser Pro Ala Ser Ile Pro His
 305 310 315 320
 Ser Pro Gly Ala Phe Ala Tyr Glu Gly Ala Ser Phe Tyr
 325 330

<210> 510
 <211> 1155
 <212> DNA
 <213> Homo sapiens

<400> 510
 atggctctaa atgactgttt ctttctgaac ttggaggtgg accatttcat gcaactgcaac 60
 atctccagtc acagtgcgga tctccccgtg aacgatgact ggtcccaccc ggggatcctc 120
 tatgtcatcc ctgcagttta tggggttatc attctgatag gcctcattgg caacatcact 180
 ttgatcaaga tcttctgtac agtcaagtcc atgcgaaacg ttccaaacct gttcatttcc 240
 agtctggctt tgggagacct gctcctccta ataacgtgtg ctccagtggg tgccagcagg 300
 tacctggctg acagatggct atttggcagg attggctgca aactgatccc ctttatacag 360
 cttacctctg ttgggggtgc tgtcttcaca ctacacggcg tctcggcaga cagatacaaa 420
 gccattgtcc ggccaatgga tatccaggcc tcccatgccc tgatgaagat ctgcctcaaa 480
 gccgccttta tctggatcat ctccatgctg ctggccattc cagaggccgt gttttctgac 540
 ctccatccct tccatgagga aagcaccaac cagaccttca ttagctgtgc ccataacca 600
 cactctaata agcttcaccc caaaatccat tctatggctt cctttctggt cttctacgtc 660
 atcccactgt cgatcatctc tgtttactac tacttcattg ctaaaaatct gatccagagt 720
 gttacaatc ttcccgtgga aggaatata catgtcaaga agcagattga atcccgaag 780
 cgacttaaga agacagtgt ggtgtttgtg ggccgtgttc ccttctgctg gctccccaat 840
 catgtcatct acctgtaccg ctctaccac tactctgagg tggacacctc catgctccac 900
 tttgtcacca gcatctgtgc ccgcctcctg gccttcacca actcctgcgt gaaccctttt 960
 gccctctacc tgcctgagcaa gagtttcagg aaacagttca aactcagct gctctgttgc 1020
 cagcctggcc tgatcatccg gtctcacagc actggaagga gtacaacctg catgacctcc 1080
 ctcaagagta ccaacccctc cgtggccacc tttagcctca tcaatgaaa catctgtcac 1140
 gagcggatat tctag 1155

<210> 511
 <211> 384
 <212> PRT
 <213> Homo sapiens

<400> 511
 Met Ala Leu Asn Asp Cys Phe Leu Leu Asn Leu Glu Val Asp His Phe

1	5	10	15
Met His Cys Asn Ile Ser Ser His Ser Ala Asp Leu Pro Val Asn Asp	20	25	30
Asp Trp Ser His Pro Gly Ile Leu Tyr Val Ile Pro Ala Val Tyr Gly	35	40	45
Val Ile Ile Leu Ile Gly Leu Ile Gly Asn Ile Thr Leu Ile Lys Ile	50	55	60
Phe Cys Thr Val Lys Ser Met Arg Asn Val Pro Asn Leu Phe Ile Ser	65	70	75
Ser Leu Ala Leu Gly Asp Leu Leu Leu Leu Ile Thr Cys Ala Pro Val	85	90	95
Asp Ala Ser Arg Tyr Leu Ala Asp Arg Trp Leu Phe Gly Arg Ile Gly	100	105	110
Cys Lys Leu Ile Pro Phe Ile Gln Leu Thr Ser Val Gly Val Ser Val	115	120	125
Phe Thr Leu Thr Ala Leu Ser Ala Asp Arg Tyr Lys Ala Ile Val Arg	130	135	140
Pro Met Asp Ile Gln Ala Ser His Ala Leu Met Lys Ile Cys Leu Lys	145	150	155
Ala Ala Phe Ile Trp Ile Ile Ser Met Leu Leu Ala Ile Pro Glu Ala	165	170	175
Val Phe Ser Asp Leu His Pro Phe His Glu Glu Ser Thr Asn Gln Thr	180	185	190
Phe Ile Ser Cys Ala Pro Tyr Pro His Ser Asn Glu Leu His Pro Lys	195	200	205
Ile His Ser Met Ala Ser Phe Leu Val Phe Tyr Val Ile Pro Leu Ser	210	215	220
Ile Ile Ser Val Tyr Tyr Tyr Phe Ile Ala Lys Asn Leu Ile Gln Ser	225	230	235
Ala Tyr Asn Leu Pro Val Glu Gly Asn Ile His Val Lys Lys Gln Ile	245	250	255
Glu Ser Arg Lys Arg Leu Lys Lys Thr Val Leu Val Phe Val Gly Leu	260	265	270
Phe Ala Phe Cys Trp Leu Pro Asn His Val Ile Tyr Leu Tyr Arg Ser	275	280	285
Tyr His Tyr Ser Glu Val Asp Thr Ser Met Leu His Phe Val Thr Ser	290	295	300
Ile Cys Ala Arg Leu Leu Ala Phe Thr Asn Ser Cys Val Asn Pro Phe			

305 310 315 320

Ala Leu Tyr Leu Leu Ser Lys Ser Phe Arg Lys Gln Phe Asn Thr Gln
 325 330 335

Leu Leu Cys Cys Gln Pro Gly Leu Ile Ile Arg Ser His Ser Thr Gly
 340 345 350

Arg Ser Thr Thr Cys Met Thr Ser Leu Lys Ser Thr Asn Pro Ser Val
 355 360 365

Ala Thr Phe Ser Leu Ile Asn Gly Asn Ile Cys His Glu Arg Tyr Val
 370 375 380

<210> 512
 <211> 1422
 <212> DNA
 <213> Homo sapiens

<400> 512
 atgaacactt cagccccacc tgctgtcagc cccaacatca ccgctcctggc accaggaaag 60
 ggtccctggc aagtggcctt cattgggatc accacgggcc tcctgtcgct agccacagtg 120
 acaggcaacc tgctggtact catctctttc aaggtcaaca cggagctcaa gacagtcaat 180
 aactacttcc tgctgagcct ggctgtgct gacctcatca tcggtacctt ctccatgaac 240
 ctctatacca cgtacctgct catggggcac tgggctctgg gcacgctggc ttgtgacctc 300
 tggctggccc tggactatgt ggccagcaat gcctccgtca tgaatctgct gctcatcagc 360
 ttgaccgct acttctccgt gactcggccc ctgagctacc gtgccaagcg cacaccccg 420
 cgggcagctc tgatgatcgg cctggcctgg ctggtttcct ttgtgctctg ggccccagcc 480
 atcctcttct ggccagtacct ggtaggggag cggacgatgc tagctgggca gtgtacatc 540
 cagttcctct cccagcccat catcaccttt ggcacagcca tggctgcctt ctacctccct 600
 gtcacagtca tgtgcacgct ctactggcgc atctaccggg agacagagaa ccgagcacgg 660
 gagctggcag cccttcaggg ctccgagacg ccaggcaaag ggggtggcag cagcagcagc 720
 tcagagaggt ctccagccagg ggctgagggc tcaccagaga ctccctccagg ccgctgctgt 780
 cgctgctgcc gggccccccag gctgctgcag gcctacagct ggaaggaaga agaggaagag 840
 gacgaaggct ccatggagtc cctcacatcc tcagagggag aggagcctgg ctccgaagtg 900
 gtgatcaaga tgccaatggg ggaccccag gcacaggccc ccaccaagca gccccacgg 960
 agtccccaa atacagtcaa gaggccgact aagaaagggc gtgatcgagc tggcaagggc 1020
 cagaagcccc gtggaagga gcagctggcc aagcggaaga ccttctcgct ggtcaaggag 1080
 aagaaggcga aacggaccct gagtgccatc ctccctggct tcctcctcac ctggacaccg 1140
 tacaacatca tgggtgctgg gtccaccttc tgcaaggact gtgttccga gacctgtgg 1200
 gagctgggct actggctgtg ctacgtcaac agcaccatca accccatgtg ctacgcactc 1260
 tgcaacaaag ccttcggga cacttttcgc ctgctgctgc tttgccgctg ggacaagaga 1320
 cgctggcgca agatcccaa gcgccctggc tccgtgcacc gactccctc ccgccaatgc 1380
 tgatagtccc ctctcctgca tccctccacc ccagtcctccg gg 1422

<210> 513
 <211> 460
 <212> PRT
 <213> Homo sapiens

<400> 513
 Met Asn Thr Ser Ala Pro Pro Ala Val Ser Pro Asn Ile Thr Val Leu

gtgtggacaa ttggttactg gctttgttac atcaacagca ctatcaaccc tgcttgctat 1320
gcactttgca atgccacctt caagaagacc tttaaacacc ttctcatgtg tcattataag 1380
aacataggcg ctacaaggta a 1401

<210> 515
<211> 466
<212> PRT
<213> Homo sapiens

<400> 515
Met Asn Asn Ser Thr Asn Ser Ser Asn Asn Ser Leu Ala Leu Thr Ser
1 5 10 15
Pro Tyr Lys Thr Phe Glu Val Val Phe Ile Val Leu Val Ala Gly Ser
20 25 30
Leu Ser Leu Val Thr Ile Ile Gly Asn Ile Leu Val Met Val Ser Ile
35 40 45
Lys Val Asn Arg His Leu Gln Thr Val Asn Asn Tyr Phe Leu Phe Ser
50 55 60
Leu Ala Cys Ala Asp Leu Ile Ile Gly Val Phe Ser Met Asn Leu Tyr
65 70 75 80
Thr Leu Tyr Thr Val Ile Gly Tyr Trp Pro Leu Gly Pro Val Val Cys
85 90 95
Asp Leu Trp Leu Ala Leu Asp Tyr Val Val Ser Asn Ala Ser Val Met
100 105 110
Asn Leu Leu Ile Ile Ser Phe Asp Arg Tyr Phe Cys Val Thr Lys Pro
115 120 125
Leu Thr Tyr Pro Val Lys Arg Thr Thr Lys Met Ala Gly Met Met Ile
130 135 140
Ala Ala Ala Trp Val Leu Ser Phe Ile Leu Trp Ala Pro Ala Ile Leu
145 150 155 160
Phe Trp Gln Phe Ile Val Gly Val Arg Thr Val Glu Asp Gly Glu Cys
165 170 175
Tyr Ile Gln Phe Phe Ser Asn Ala Ala Val Thr Phe Gly Thr Ala Ile
180 185 190
Ala Ala Phe Tyr Leu Pro Val Ile Ile Met Thr Val Leu Tyr Trp His
195 200 205
Ile Ser Arg Ala Ser Lys Ser Arg Ile Lys Lys Asp Lys Lys Glu Pro
210 215 220
Val Ala Asn Gln Asp Pro Val Ser Pro Ser Leu Val Gln Gly Arg Ile
225 230 235 240
Val Lys Pro Asn Asn Asn Asn Met Pro Ser Ser Asp Asp Gly Leu Glu

	245		250		255
His Asn Lys	Ile Gln Asn Gly Lys Ala Pro Arg Asp Pro Val Thr Glu				
	260		265		270
Asn Cys Val	Gln Gly Glu Glu Lys Glu Ser Ser Asn Asp Ser Thr Ser				
	275		280		285
Val Ser Ala	Val Ala Ser Asn Met Arg Asp Asp Glu Ile Thr Gln Asp				
	290		295		300
Glu Asn Thr	Val Ser Thr Ser Leu Gly His Ser Lys Asp Glu Asn Ser				
	305		310		315
Lys Gln Thr	Cys Ile Arg Ile Gly Thr Lys Thr Pro Lys Ser Asp Ser				
		325		330	
Cys Thr Pro	Thr Asn Thr Thr Val Glu Val Val Gly Ser Ser Gly Gln				
		340		345	
Asn Gly Asp	Glu Lys Gln Asn Ile Val Ala Arg Lys Ile Val Lys Met				
		355		360	
Thr Lys Gln	Pro Ala Lys Lys Lys Pro Pro Pro Ser Arg Glu Lys Lys				
		370		375	
Val Lys Arg	Thr Ile Leu Ala Ile Leu Leu Ala Phe Ile Ile Thr Trp				
		385		390	
Ala Pro Tyr	Asn Val Met Val Leu Ile Asn Thr Phe Cys Ala Pro Cys				
		405		410	
Ile Pro Asn	Thr Val Trp Thr Ile Gly Tyr Trp Leu Cys Tyr Ile Asn				
		420		425	
Ser Thr Ile	Asn Pro Ala Cys Tyr Ala Leu Cys Asn Ala Thr Phe Lys				
		435		440	
Lys Thr Phe	Lys His Leu Leu Met Cys His Tyr Lys Asn Ile Gly Ala				
		450		455	
Thr Arg					
		465			

<210> 516
 <211> 1773
 <212> DNA
 <213> Homo sapiens

<400> 516
 atgaccttgc acaataacag tacaacctcg cctttgtttc caaacatcag ctctctctgg 60
 atacacagcc cctccgatgc agggctgccc cggggaaccg tcaactcattt cggcagctac 120
 aatgtttctc gagcagctgg caattttctcc tctccagacg gtaccaccga tgacctctg 180
 ggaggtcata ccgtctggca agtgggtcttc atcgctttct taacgggcat cctggccttg 240
 gtgaccatca tcggcaacat cctggtaatt gtgtcattta aggtcaacaa gcagctgaag 300
 acggtcaaca actacttctt cttaagcctg gcctgtgccg atctgattat cggggtcatt 360

```

tcaatgaatc tgtttacgac ctacatcatc atgaatcgat gggccttagg gaacttggcc 420
tgtgacctct ggcttgccat tgactacgta gccagcaatg cctctgttat gaatcttctg 480
gtcatcagct ttgacagata cttttccatc acgaggcgcg tcacgtaccg agccaaacga 540
acaacaaaga gagccggtgt gatgatcggg ctggcttggg tcatctcctt tgtcctttgg 600
gctcctgcca tcttgttctg gcaatacttt gttggaaaga gaactgtgcc tccgggagag 660
tgcttcattc agttcctcag tgagcccacc attacttttg gcacagccat cgctgctttt 720
tatatgcctg tcaccattat gactatttta tactggagga tctataagga aactgaaaag 780
cgtaccaaag agcttgctgg cctgcaagcc tctgggacag aggcagagac agaaaacttt 840
gtccacccca cgggcagttc tcgaagctgc agcagttacg aacttcaaca gcaaagcatg 900
aaacgctcca acaggaggaa gtatggccgc tgccacttct gggttcacaac caagagctgg 960
aaacccagct ccgagcagat ggaccaagac cacagcagca gtgacagttg gaacaacaat 1020
gatgctgctg cctccctgga gaactccgcc tcctccgacg aggaggacat tggctccgag 1080
acgagagcca tctactccat cgtgctcaag cttccgggtc acagcaccat cctcaactcc 1140
accaagttac cctcatcgga caacctgcag gtgcctgagg aggagctggg gatggtggac 1200
ttggagagga aagccgacaa gctgcaggcc cagaagagcg tggacgatgg aggcagtttt 1260
ccaaaaagct tctccaagct tcccatccag ctagagtcag ccgtggacac agctaagact 1320
tctgacgtca actcctcagt gggtaagagc acggccactc tacctctgtc cttcaaggaa 1380
gccactcttg ccaagaggtt tgctctgaag accagaagtc agatcactaa gcggaaaagg 1440
atgtccctgg tcaaggagaa gaaagcgaaa cagaccctca gtgcgatctt gcttgccttc 1500
atcatcactt ggaccccata caacatcatg gttctgtgta acaccttttg tgacagctgc 1560
atacccaaaa ctttttgtaa tctgggttac tggctgtgct acatcaacag caccgtgaac 1620
cccgtgtgct atgctctgtg caacaaaaca ttcagaacca ctttcaagat gctgctgctg 1680
tgccagtgtg acaaaaaaaaa gaggcgcaag cagcagtacc agcagagaca gtcggtcatt 1740
tttcacaagc gcgcacccga gcaggccttg tag 1773

```

<210> 517
 <211> 590
 <212> PRT
 <213> Homo sapiens

<400> 517

Met	Thr	Leu	His	Asn	Asn	Ser	Thr	Thr	Ser	Pro	Leu	Phe	Pro	Asn	Ile
1				5					10					15	
Ser	Ser	Ser	Trp	Ile	His	Ser	Pro	Ser	Asp	Ala	Gly	Leu	Pro	Pro	Gly
			20					25					30		
Thr	Val	Thr	His	Phe	Gly	Ser	Tyr	Asn	Val	Ser	Arg	Ala	Ala	Gly	Asn
			35					40					45		
Phe	Ser	Ser	Pro	Asp	Gly	Thr	Thr	Asp	Asp	Pro	Leu	Gly	Gly	His	Thr
			50					55			60				
Val	Trp	Gln	Val	Val	Phe	Ile	Ala	Phe	Leu	Thr	Gly	Ile	Leu	Ala	Leu
			65			70				75				80	
Val	Thr	Ile	Ile	Gly	Asn	Ile	Leu	Val	Ile	Val	Ser	Phe	Lys	Val	Asn
				85				90						95	
Lys	Gln	Leu	Lys	Thr	Val	Asn	Asn	Tyr	Phe	Leu	Leu	Ser	Leu	Ala	Cys
			100					105					110		
Ala	Asp	Leu	Ile	Ile	Gly	Val	Ile	Ser	Met	Asn	Leu	Phe	Thr	Thr	Tyr
			115				120					125			
Ile	Ile	Met	Asn	Arg	Trp	Ala	Leu	Gly	Asn	Leu	Ala	Cys	Asp	Leu	Trp

ctgggtgaaca ccttctgccca gagctgcac cctgacaagg tgtgggtccat tggctactgg 1320
ctctgtctacg tcaacagcac catcaaccct gcctgtctatg ctctgtgcaa cgccaccttt 1380
aaaaagacct tccggcacct gctgctgtgc cagtatcgga acatcggcac tgccaggtag 1440

<210> 519
<211> 479
<212> PRT
<213> Homo sapiens

<400> 519
Met Ala Asn Phe Thr Pro Val Asn Gly Ser Ser Gly Asn Gln Ser Val
1 5 10 15
Arg Leu Val Thr Ser Ser Ser His Asn Arg Tyr Glu Thr Val Glu Met
20 25 30
Val Phe Ile Ala Thr Val Thr Gly Ser Leu Ser Leu Val Thr Val Val
35 40 45
Gly Asn Ile Leu Val Met Leu Ser Ile Lys Val Asn Arg Gln Leu Gln
50 55 60
Thr Val Asn Asn Tyr Phe Leu Phe Ser Leu Ala Cys Ala Asp Leu Ile
65 70 75 80
Ile Gly Ala Phe Ser Met Asn Leu Tyr Thr Val Tyr Ile Ile Lys Gly
85 90 95
Tyr Trp Pro Leu Gly Ala Val Val Cys Asp Leu Trp Leu Ala Leu Asp
100 105 110
Tyr Val Val Ser Asn Ala Ser Val Met Asn Leu Leu Ile Ile Ser Phe
115 120 125
Asp Arg Tyr Phe Cys Val Thr Lys Pro Leu Thr Tyr Pro Ala Arg Arg
130 135 140
Thr Thr Lys Met Ala Gly Leu Met Ile Ala Ala Ala Trp Val Leu Ser
145 150 155 160
Phe Val Leu Trp Ala Pro Ala Ile Leu Phe Trp Gln Phe Val Val Gly
165 170 175
Lys Arg Thr Val Pro Asp Asn Gln Cys Phe Ile Gln Phe Leu Ser Asn
180 185 190
Pro Ala Val Thr Phe Gly Thr Ala Ile Ala Ala Phe Tyr Leu Pro Val
195 200 205
Val Ile Met Thr Val Leu Tyr Ile His Ile Ser Leu Ala Ser Arg Ser
210 215 220
Arg Val His Lys His Arg Pro Glu Gly Pro Lys Glu Lys Lys Ala Lys
225 230 235 240
Thr Leu Ala Phe Leu Lys Ser Pro Leu Met Lys Gln Ser Val Lys Lys


```

cttctggtga tcagttttga ccgttacttt tccatcacaa gacccttgac atatcggggc 420
aagcgtactc cgaaaagggc tggcatcatg attggcttgg cctggctgat ctccctcatc 480
ctctggggcc cagcaatcct ctgctggcag tacttgggtg ggaagcggac agttccactg 540
gatgagtgcc agatccagtt tctctctgag cccaccatca cttttggcac tgccattgct 600
gccttctaca tccctgtttc tgtcatgacc atcctctact gtcgaatcta ccgggaaaca 660
gagaagcgaa ccaaggacct ggctgacctc caggggttctg actctgtgac caaagctgag 720
aagagaaagc cagctcatag ggctctgttc agatcctgct tgcgctgtcc tcgaccacc 780
ctggcccagc gggaaaggaa ccaggcctcc tggctcatcct cccgcaggag cacctccacc 840
actgggaagc catcccaagc cactggccca agcgccaatt gggccaaagc tgagcagctc 900
accacctgta gcagctaccc ttcctcagag gatgaggaca agcccggcac tgacctgtc 960
ctccaagtgg tctacaagag tcagggtaag gaaagcccag gggaagaatt cagtgtctgaa 1020
gagactgagg aaacttttgt gaaagctgaa actgaaaaaa gtgactatga caccctaaac 1080
taccttctgt ctccagcagc tgctcataga cccaagagtc agaatgtgt ggcctataag 1140
ttccgattgg tggtaaaagc tgacgggaac caggagacca acaatggctg tcacaagggtg 1200
aaaatcatgc cctgcccctt cccagtggcc aaggaacctt caacgaaagg cctcaatccc 1260
aaccgccagc atcaaatgac caaacgaaag agagtggctc tagtcaaaga gaggaaagca 1320
aaacagacac tgagtgccat tctcctggcc ttcacatca catggacccc gtataacatc 1380
atggtcctgg tttctacctt ctgtgacaag tgtgtcccag tcacctgtg gcacttgggc 1440
tattggttgt gctatgtcaa tagcactgtc aaccccatct gctatgccct ctgcaacaga 1500
accttcagga agacctttaa gatgtgctt ctctgccgat ggaaaaagaa aaaagtggaa 1560
gagaagttgt actggcaggg gaacagcaag ctaccctga 1599

```

<210> 521
 <211> 532
 <212> PRT
 <213> Homo sapiens

<400> 521

Met	Glu	Gly	Asp	Ser	Tyr	His	Asn	Ala	Thr	Thr	Val	Asn	Gly	Thr	Pro
1				5					10					15	
Val	Asn	His	Gln	Pro	Leu	Glu	Arg	His	Arg	Leu	Trp	Glu	Val	Ile	Thr
			20					25					30		
Ile	Ala	Ala	Val	Thr	Ala	Val	Val	Ser	Leu	Ile	Thr	Ile	Val	Gly	Asn
			35					40					45		
Val	Leu	Val	Met	Ile	Ser	Phe	Lys	Val	Asn	Ser	Gln	Leu	Lys	Thr	Val
			50					55				60			
Asn	Asn	Tyr	Tyr	Leu	Leu	Ser	Leu	Ala	Cys	Ala	Asp	Leu	Ile	Ile	Gly
						70				75					80
Ile	Phe	Ser	Met	Asn	Leu	Tyr	Thr	Thr	Tyr	Ile	Leu	Met	Gly	Arg	Trp
						85				90					95
Ala	Leu	Gly	Ser	Leu	Ala	Cys	Asp	Leu	Trp	Leu	Ala	Leu	Asp	Tyr	Val
						100				105				110	
Ala	Ser	Asn	Ala	Ser	Val	Met	Asn	Leu	Leu	Val	Ile	Ser	Phe	Asp	Arg
						115				120				125	
Tyr	Phe	Ser	Ile	Thr	Arg	Pro	Leu	Thr	Tyr	Arg	Ala	Lys	Arg	Thr	Pro
						130						140			
Lys	Arg	Ala	Gly	Ile	Met	Ile	Gly	Leu	Ala	Trp	Leu	Ile	Ser	Phe	Ile

450

455

460

Ser Thr Phe Cys Asp Lys Cys Val Pro Val Thr Leu Trp His Leu Gly
465 470 475 480

Tyr Trp Leu Cys Tyr Val Asn Ser Thr Val Asn Pro Ile Cys Tyr Ala
485 490 495

Leu Cys Asn Arg Thr Phe Arg Lys Thr Phe Lys Met Leu Leu Leu Cys
500 505 510

Arg Trp Lys Lys Lys Lys Val Glu Glu Lys Leu Tyr Trp Gln Gly Asn
515 520 525

Ser Lys Leu Pro
530

<210> 522

<211> 972

<212> DNA

<213> Homo sapiens

<400> 522

atgaatgctt cgtgctgcct gccctctgtt cagccaacac tgcctaattgg ctcgagagcac 60
ctccaagccc ctttcttcag caaccagagc agcagcgctt tctgtgagca ggtcttcac 120
aagcccagaga ttttcctgtc tctgggcatc gtcagtctgc tggaaaacat cctgggttacc 180
ctggccgtgg tcaggaacgg caacctgcac tccccgatgt acttctttct ctgcagcctg 240
gcggtggcgg acatgctggt aagtgtgtcc aatgccctgg agaccatcat gatcgccatc 300
gtccacagcg actacctgac cttcgaggac cagtttatcc agcacatgga caacatcttc 360
gactccatga tctgcatctc cctgggtggc tccatctgca acctcctggc catcgccgtc 420
gacaggtacg tcaccatctt ttacgcgctc cgctaccaca gcatcatgac cgtgaggaag 480
gocctcacct tgatcgtggc catctgggtc tgctgcggcg tctgtggcgt ggtgttcac 540
gtctactcgg agagcaaat ggtcattgtg tgccctcatca ccatgttctt cgccatgatg 600
ctctcatcgg gcaccctcta cgtgcacatg ttctctttg cgcggtctgca cgtcaagcgc 660
atagcagcac tgccacctgc cgacggggtg gccccacagc aacactcatg catgaagggg 720
aaagtcaacca tcaccattct cctgggcgtg ttcatcttct gctgggcccc cttcttcttc 780
cacctgggtc tcatcatcac ctgccccacc aacctctact gcatctgcta cactgcccac 840
ttcaacacct acctggctct catcatgtgc aactccgtca tcgaccact catctacgct 900
ttccggagcc tggaattgcg caacacctt aggagattc tctgtggctg caacggcatg 960
aacttgggat ag 972

<210> 523

<211> 323

<212> PRT

<213> Homo sapiens

<400> 523

Met Asn Ala Ser Cys Cys Leu Pro Ser Val Gln Pro Thr Leu Pro Asn
1 5 10 15

Gly Ser Glu His Leu Gln Ala Pro Phe Phe Ser Asn Gln Ser Ser Ser
20 25 30

Ala Phe Cys Glu Gln Val Phe Ile Lys Pro Glu Ile Phe Leu Ser Leu
35 40 45

Gly Ile Val Ser Leu Leu Glu Asn Ile Leu Val Ile Leu Ala Val Val
50 55 60

Arg Asn Gly Asn Leu His Ser Pro Met Tyr Phe Phe Leu Cys Ser Leu
65 70 75 80

Ala Val Ala Asp Met Leu Val Ser Val Ser Asn Ala Leu Glu Thr Ile
85 90 95

Met Ile Ala Ile Val His Ser Asp Tyr Leu Thr Phe Glu Asp Gln Phe
100 105 110

Ile Gln His Met Asp Asn Ile Phe Asp Ser Met Ile Cys Ile Ser Leu
115 120 125

Val Ala Ser Ile Cys Asn Leu Leu Ala Ile Ala Val Asp Arg Tyr Val
130 135 140

Thr Ile Phe Tyr Ala Leu Arg Tyr His Ser Ile Met Thr Val Arg Lys
145 150 155 160

Ala Leu Thr Leu Ile Val Ala Ile Trp Val Cys Cys Gly Val Cys Gly
165 170 175

Val Val Phe Ile Val Tyr Ser Glu Ser Lys Met Val Ile Val Cys Leu
180 185 190

Ile Thr Met Phe Phe Ala Met Met Leu Leu Met Gly Thr Leu Tyr Val
195 200 205

His Met Phe Leu Phe Ala Arg Leu His Val Lys Arg Ile Ala Ala Leu
210 215 220

Pro Pro Ala Asp Gly Val Ala Pro Gln Gln His Ser Cys Met Lys Gly
225 230 235 240

Lys Val Thr Ile Thr Ile Leu Leu Gly Val Phe Ile Phe Cys Trp Ala
245 250 255

Pro Phe Phe Leu His Leu Val Leu Ile Ile Thr Cys Pro Thr Asn Pro
260 265 270

Tyr Cys Ile Cys Tyr Thr Ala His Phe Asn Thr Tyr Leu Val Leu Ile
275 280 285

Met Cys Asn Ser Val Ile Asp Pro Leu Ile Tyr Ala Phe Arg Ser Leu
290 295 300

Glu Leu Arg Asn Thr Phe Arg Glu Ile Leu Cys Gly Cys Asn Gly Met
305 310 315 320

Asn Leu Gly

<210> 524

<211> 1224
<212> DNA
<213> Homo sapiens

<400> 524
atggataacg tcctcccggg ggactcagac ctctcccca acatctccac taacacctcg 60
gaaccaatc agttcgtgca accagcctgg caaattgtcc tttgggcagc tgcctacacg 120
gtcattgtgg tgacctctgt ggtgggcaac gtggtagtga tgtggatcat cttagcccac 180
aaaagaatga ggacagtgc gaactatctt ctggtgaacc tggccttcgc ggaggcctcc 240
atggctgcat tcaatacagt ggtgaacttc acctatgctg tccacaacga atggtactac 300
ggcctgttct actgcaagtt ccacaacttc tttcccatcg ccgctgtctt cgccagtatc 360
tactccatga cggctgtggc ctttgatagg tacatggcca tcatacatcc cctccagccc 420
cggctgtcag ccacagccac caaagtgggc atctgtgtca tctgggtcct ggctctcctg 480
ctggccttcc ccaggggcta ctactcaacc acagagacca tggccagcag agtcgtgtgc 540
atgatcgaat gccagagca tccgaacaag atttatgaga aagtgtacca catctgtgtg 600
actgtgctga tctacttcct cccctgctg gtgattggct atgcatacac cgtagtggga 660
atcacactat gggccagtga gatccccggg gactcctctg accgctacca cgagcaagtc 720
tctgccaaag gcaaggtgaa gaaaatgatg attgtcgtgg tgtgcacctt cgccatctgc 780
tggtgcacct tccacatctt cttcctcctg ccctacatca acccagatct ctacctgaag 840
aagtttatcc agcaggtcta cctggccatc atgtggctgg ccatgagctc caccatgtac 900
aaccatca tctactgctg cctcaatgac aggttcctgc tgggcttcaa gcatgccttc 960
cgggtgctgcc cttcatcag cgccggcgac tatgaggggc tggaaatgaa atccaccggg 1020
tatctccaga ccagggcag tgtgtacaaa gtcagccgcc tggagaccac catctccaca 1080
gtggtggggg ccacagagga ggagccagag gacggcccca aggccacacc ctgctccctg 1140
gacctgacct ccaactgctc ttcacgaagt gactccaaga ccatgacaga gagcttcagc 1200
ttctctcca atgtgctctc ctac 1224

<210> 525
<211> 407
<212> PRT
<213> Homo sapiens

<400> 525
Met Asp Asn Val Leu Pro Val Asp Ser Asp Leu Ser Pro Asn Ile Ser
1 5 10 15
Thr Asn Thr Ser Glu Pro Asn Gln Phe Val Gln Pro Ala Trp Gln Ile
20 25 30
Val Leu Trp Ala Ala Ala Tyr Thr Val Ile Val Val Thr Ser Val Val
35 40 45
Gly Asn Val Val Val Met Trp Ile Ile Leu Ala His Lys Arg Met Arg
50 55 60
Thr Val Thr Asn Tyr Phe Leu Val Asn Leu Ala Phe Ala Glu Ala Ser
65 70 75 80
Met Ala Ala Phe Asn Thr Val Val Asn Phe Thr Tyr Ala Val His Asn
85 90 95
Glu Trp Tyr Tyr Gly Leu Phe Tyr Cys Lys Phe His Asn Phe Phe Pro
100 105 110
Ile Ala Ala Val Phe Ala Ser Ile Tyr Ser Met Thr Ala Val Ala Phe
115 120 125

<211> 1197
 <212> DNA
 <213> Homo sapiens

<400> 526
 atggggacct gtgacattgt gactgaagcc aatatctcat ctggccctga gagcaacacc 60
 acgggcatca cagccttctc catgcccagc tggcagctgg cactgtgggc accagcctac 120
 ctggccctgg tgctggtggc cgtgacgggt aatgccatcg tcatctggat catcctggcc 180
 catcggagga tgcgcacagt caccaactac ttcacgtcga atctggcgct ggctgacctc 240
 tgcattggctg ccttcaatgc cgccttcaac tttgtctatg ccagccacaa catctggtac 300
 tttggccgtg ccttctgcta cttccagaac ctcttcccca tcacagccat gtttgtcagc 360
 atctactcca tgaccgccat tgctgccgac aggtacatgg ccacgtcca ccccttccag 420
 cctcggcttt cagctcccag caccaaggcg gttattgctg gcacctggct ggtggctctc 480
 gccctggcct cccctcagtg cttctactcc accgtcacca tggaccaggg tgccaccaag 540
 tgcgtggtgg cctggcccga agacagcggg ggcaagaagc tcctcctgta ccacctcgtg 600
 gtgatcgccc tcatctactt cctgccgctc gcggtgatgt ttgtagccta cagcgtcatc 660
 ggcttcacgc cctggaggcg cgcagtgccg ggacatcagg cgcacgggtg caacctccgc 720
 catctgcagg ccaagaagaa gtttaagaag accatggtgc tgggtggtgct gacgtttgcc 780
 atctgctggc tgccctacca cctctacttc atcctgggca gcttccagga ggacatctac 840
 tgccacaagt tcatccagca agtctacctg gcactcttct ggttggccat gagctctacc 900
 atgtacaatc ccatcatcta ctgctgtctc aaccacaggt ttcgctctgg gttccggctt 960
 gccttccgct gctgcccatg ggtcacaccc accaaggaag ataagctoga gctgactccc 1020
 acgacctccc tctccacgag agtcaacagg tgtcacacta aggagacttt gttcatggct 1080
 ggggacacag cccctccga ggctaccagt ggggagggcg ggcgtcccca ggatggatca 1140
 gggctatggt ttgggtatgg tttgcttgcc cccacaaaaa ctcatgttga aatttga 1197

<210> 527
 <211> 398
 <212> PRT
 <213> Homo sapiens

<400> 527
 Met Gly Thr Cys Asp Ile Val Thr Glu Ala Asn Ile Ser Ser Gly Pro
 1 5 10 15
 Glu Ser Asn Thr Thr Gly Ile Thr Ala Phe Ser Met Pro Ser Trp Gln
 20 25 30
 Leu Ala Leu Trp Ala Pro Ala Tyr Leu Ala Leu Val Leu Val Ala Val
 35 40 45
 Thr Gly Asn Ala Ile Val Ile Trp Ile Ile Leu Ala His Arg Arg Met
 50 55 60
 Arg Thr Val Thr Asn Tyr Phe Ile Val Asn Leu Ala Leu Ala Asp Leu
 65 70 75 80
 Cys Met Ala Ala Phe Asn Ala Ala Phe Asn Phe Val Tyr Ala Ser His
 85 90 95
 Asn Ile Trp Tyr Phe Gly Arg Ala Phe Cys Tyr Phe Gln Asn Leu Phe
 100 105 110
 Pro Ile Thr Ala Met Phe Val Ser Ile Tyr Ser Met Thr Ala Ile Ala
 115 120 125

Ala Asp Arg Tyr Met Ala Ile Val His Pro Phe Gln Pro Arg Leu Ser
130 135 140

Ala Pro Ser Thr Lys Ala Val Ile Ala Gly Ile Trp Leu Val Ala Leu
145 150 155 160

Ala Leu Ala Ser Pro Gln Cys Phe Tyr Ser Thr Val Thr Met Asp Gln
165 170 175

Gly Ala Thr Lys Cys Val Val Ala Trp Pro Glu Asp Ser Gly Gly Lys
180 185 190

Thr Leu Leu Leu Tyr His Leu Val Val Ile Ala Leu Ile Tyr Phe Leu
195 200 205

Pro Leu Ala Val Met Phe Val Ala Tyr Ser Val Ile Gly Leu Thr Leu
210 215 220

Trp Arg Arg Ala Val Pro Gly His Gln Ala His Gly Ala Asn Leu Arg
225 230 235 240

His Leu Gln Ala Lys Lys Lys Phe Lys Lys Thr Met Val Leu Val Val
245 250 255

Leu Thr Phe Ala Ile Cys Trp Leu Pro Tyr His Leu Tyr Phe Ile Leu
260 265 270

Gly Ser Phe Gln Glu Asp Ile Tyr Cys His Lys Phe Ile Gln Gln Val
275 280 285

Tyr Leu Ala Leu Phe Trp Leu Ala Met Ser Ser Thr Met Tyr Asn Pro
290 295 300

Ile Ile Tyr Cys Cys Leu Asn His Arg Phe Arg Ser Gly Phe Arg Leu
305 310 315 320

Ala Phe Arg Cys Cys Pro Trp Val Thr Pro Thr Lys Glu Asp Lys Leu
325 330 335

Glu Leu Thr Pro Thr Thr Ser Leu Ser Thr Arg Val Asn Arg Cys His
340 345 350

Thr Lys Glu Thr Leu Phe Met Ala Gly Asp Thr Ala Pro Ser Glu Ala
355 360 365

Thr Ser Gly Glu Ala Gly Arg Pro Gln Asp Gly Ser Gly Leu Trp Phe
370 375 380

Gly Tyr Gly Leu Leu Ala Pro Thr Lys Thr His Val Glu Ile
385 390 395

<210> 528
<211> 1398
<212> DNA
<213> Homo sapiens

Phe Ser Asp Ala Ser Met Ala Ala Phe Asn Thr Leu Val Asn Phe Ile
 130 135 140
 Tyr Ala Leu His Ser Glu Trp Tyr Phe Gly Ala Asn Tyr Cys Arg Phe
 145 150 155 160
 Gln Asn Phe Phe Pro Ile Thr Ala Val Phe Ala Ser Ile Tyr Ser Met
 165 170 175
 Thr Ala Ile Ala Val Asp Arg Tyr Met Ala Ile Ile Asp Pro Leu Lys
 180 185 190
 Pro Arg Leu Ser Ala Thr Ala Thr Lys Ile Val Ile Gly Ser Ile Trp
 195 200 205
 Ile Leu Ala Phe Leu Leu Ala Phe Pro Gln Cys Leu Tyr Ser Lys Thr
 210 215 220
 Lys Val Met Pro Gly Arg Thr Leu Cys Phe Val Gln Trp Pro Glu Gly
 225 230 235 240
 Pro Lys Gln His Phe Thr Tyr His Ile Ile Val Ile Ile Leu Val Tyr
 245 250 255
 Cys Phe Pro Leu Leu Ile Met Gly Ile Thr Tyr Thr Ile Val Gly Ile
 260 265 270
 Thr Leu Trp Gly Gly Glu Ile Pro Gly Asp Thr Cys Asp Lys Tyr His
 275 280 285
 Glu Gln Leu Lys Ala Lys Arg Lys Val Lys Lys Met Met Ile Ile Val
 290 295 300
 Val Met Thr Phe Ala Ile Cys Trp Leu Pro Tyr His Ile Tyr Phe Ile
 305 310 315 320
 Leu Thr Ala Ile Tyr Gln Gln Leu Asn Arg Trp Lys Tyr Ile Gln Gln
 325 330 335
 Val Tyr Leu Ala Ser Phe Trp Leu Ala Met Ser Ser Thr Met Tyr Asn
 340 345 350
 Pro Ile Ile Tyr Cys Cys Leu Asn Lys Arg Phe Arg Ala Gly Phe Lys
 355 360 365
 Arg Ala Phe Arg Trp Cys Pro Phe Ile Lys Val Ser Ser Tyr Asp Glu
 370 375 380
 Leu Glu Leu Lys Thr Thr Arg Phe His Pro Asn Arg Gln Ser Ser Met
 385 390 395 400
 Tyr Thr Val Thr Arg Met Glu Ser Met Thr Val Val Phe Asp Pro Asn
 405 410 415
 Asp Ala Asp Thr Thr Arg Ser Ser Arg Lys Lys Arg Ala Thr Pro Arg
 420 425 430

Asp Pro Ser Phe Asn Gly Cys Ser Arg Arg Asn Ser Lys Ser Ala Ser
 435 440 445

Ala Thr Ser Ser Phe Ile Ser Ser Pro Tyr Thr Ser Val Asp Glu Tyr
 450 455 460

Ser
 465

<210> 530
 <211> 1173
 <212> DNA
 <213> Homo sapiens

<400> 530
 atgccctcta agtctctttc caacctctcg gtgaccaccg gcgcgaatga gagcgggttcc 60
 gttccccgagg ggtgggaaaag ggatttctctg cccggcctcgg acggggaccac cacggagttg 120
 gtgatccgct gtgtgatccc gtccctctac ctgctcatca tcaccgtggg cttgctgggc 180
 aacatcatgc tggatgaagat cttcatcacc aacagcgcca tgaggagcgt ccccaacatc 240
 ttcattctcta acctggcggc cggggacttg ctgctgctgc tcacctgcgt cccgggtggac 300
 gcctcgcgct acttcttcga cgagtggatg tttggcaagg tgggctgcaa actgatccct 360
 gtcattccagc tcaattccgt ggggggtttcc gtgttccactc tcaactgcct cagcgccgac 420
 aggtacagag ccattcgtaa ccccatggac atgcagacgt caggggcatt gctgcggacc 480
 tgtgtgaagg ccattgggtat ctgggtgggc tccgtgttgc tggcagttcc cgaagcgggtg 540
 ttttcagaag tggctcgcat cagtagcttg gataatagca gcttcacagc atgtatccca 600
 taccctcaaa cagatgaatt acatccaaag attcattcag tgcctatttt cttgggtctat 660
 ttcctcatat cacttgctat tattagcatt tattattatc atattgcaa gaccttaatt 720
 aaaagcgcac acaatcttcc tggagaatac aatgaacata ccaaaaaaca gatggaaaca 780
 cggaaacgcc tgaaaaaaat tgtgcttgct tttgtgggct gtttcatctt ctgttggttt 840
 ccaaaccaca tcctttacat gtatcggtct ttcaactata atgagattga tccatctcta 900
 ggccacatga ttgtcacctt agttgcccgg gttctcagtt ttggcaattc ttgtgtcaac 960
 ccatttgctc tttacctact cagtgaagc ttcaggaggc atttcaacag ccaactctgc 1020
 tgtgggagga agtcctatca agagagagga accagctacc tactcagctc ttcagcgggtg 1080
 cgtatgacat ctctgaaaag caatgctaag aacatggtga ccaattctgt tttactaaat 1140
 gggcacagca tgaagcagga aatggcaatg tga 1173

<210> 531
 <211> 390
 <212> PRT
 <213> Homo sapiens

<400> 531
 Met Pro Ser Lys Ser Leu Ser Asn Leu Ser Val Thr Thr Gly Ala Asn
 1 5 10 15
 Glu Ser Gly Ser Val Pro Glu Gly Trp Glu Arg Asp Phe Leu Pro Ala
 20 25 30
 Ser Asp Gly Thr Thr Thr Glu Leu Val Ile Arg Cys Val Ile Pro Ser
 35 40 45
 Leu Tyr Leu Leu Ile Ile Thr Val Gly Leu Leu Gly Asn Ile Met Leu
 50 55 60
 Val Lys Ile Phe Ile Thr Asn Ser Ala Met Arg Ser Val Pro Asn Ile

65	70	75	80
Phe Ile Ser Asn Leu Ala Ala Gly Asp Leu Leu Leu Leu Leu Thr Cys	85	90	95
Val Pro Val Asp Ala Ser Arg Tyr Phe Phe Asp Glu Trp Met Phe Gly	100	105	110
Lys Val Gly Cys Lys Leu Ile Pro Val Ile Gln Leu Thr Ser Val Gly	115	120	125
Val Ser Val Phe Thr Leu Thr Ala Leu Ser Ala Asp Arg Tyr Arg Ala	130	135	140
Ile Val Asn Pro Met Asp Met Gln Thr Ser Gly Ala Leu Leu Arg Thr	145	150	155
Cys Val Lys Ala Met Gly Ile Trp Val Val Ser Val Leu Leu Ala Val	165	170	175
Pro Glu Ala Val Phe Ser Glu Val Ala Arg Ile Ser Ser Leu Asp Asn	180	185	190
Ser Ser Phe Thr Ala Cys Ile Pro Tyr Pro Gln Thr Asp Glu Leu His	195	200	205
Pro Lys Ile His Ser Val Leu Ile Phe Leu Val Tyr Phe Leu Ile Pro	210	215	220
Leu Ala Ile Ile Ser Ile Tyr Tyr Tyr His Ile Ala Lys Thr Leu Ile	225	230	235
Lys Ser Ala His Asn Leu Pro Gly Glu Tyr Asn Glu His Thr Lys Lys	245	250	255
Gln Met Glu Thr Arg Lys Arg Leu Lys Lys Ile Val Leu Val Phe Val	260	265	270
Gly Cys Phe Ile Phe Cys Trp Phe Pro Asn His Ile Leu Tyr Met Tyr	275	280	285
Arg Ser Phe Asn Tyr Asn Glu Ile Asp Pro Ser Leu Gly His Met Ile	290	295	300
Val Thr Leu Val Ala Arg Val Leu Ser Phe Gly Asn Ser Cys Val Asn	305	310	315
Pro Phe Ala Leu Tyr Leu Leu Ser Glu Ser Phe Arg Arg His Phe Asn	325	330	335
Ser Gln Leu Cys Cys Gly Arg Lys Ser Tyr Gln Glu Arg Gly Thr Ser	340	345	350
Tyr Leu Leu Ser Ser Ser Ala Val Arg Met Thr Ser Leu Lys Ser Asn	355	360	365
Ala Lys Asn Met Val Thr Asn Ser Val Leu Leu Asn Gly His Ser Met			

370

375

380

Lys Gln Glu Met Ala Met
385 390

<210> 532
<211> 1338
<212> DNA
<213> Homo sapiens

<400> 532
atggatttag agctcgacga gtattataac aagacacttg ccacagagaa taatactgct 60
gccactcgga attctgattt cccagtctgg gatgactata aaagcagtgt agatgactta 120
cagtattttc tgattgggct ctatacattt gtaagtcttc ttggctttat ggggaatcta 180
cttattttta tggctctcat gaaaaagcgt aatcagaaga ctacggtaaa cttcctcata 240
ggcaatctgg ccttttctga tatcttggtt gtgctgtttt gtcaccttt cactgacg 300
tctgtcttgc tggatcagtg gatgtttggc aaagtcagt ggcataattat gccttttctt 360
caatgtgtgt cagttttggt ttcaacttta attttaatat caattgccat tgtcaggtat 420
catatgataa aacatcccat atctaataat ttaacagcaa accatggcta ctttctgata 480
gctactgtct ggacactagg ttttgccatc tgttctcccc ttccagtgtt tcacagtctt 540
gtggaacttc aagaaacatt tggttcagca ttgctgagca gcaggatatt atgtgttgag 600
tcatggccat ctgattcata cagaattgcc tttactatct ctttattgct agttcagtat 660
attctgccct tagtttgtct tactgtaagt catacaagtg tctgcagaag tataagctgt 720
ggattgtcca acaaagaaaa cagacttgaa gaaaatgaga tgatcaactt aactcttcat 780
ccatccaaaa agagtgggcc tcagggtgaaa ctctctggca gccataaatg gagttattca 840
ttcatcaaaa aacacagaag aagatatagc aagaagacag catgtgtgtt acctgctcca 900
gaaagacctt ctcaagagaa ccactccaga atacttccag aaaacttttg ctctgtaaga 960
agtcagctct cttcatccag taagttcata ccaggggtcc ccacttgctt tgagataaaa 1020
cctgaagaaa attcagatgt tcatgaattg agagtaaaac gttctgttac aagaataaaa 1080
aagagatctc gaagtgttaa gtacagactg accatactga tattagtatt tgctgttagt 1140
tggatgccac tacacctttt ccatgtggta actgatttta atgacaatct tatttcaaat 1200
aggcatttca agttgggtga ttgcatttgt catttggttg gcatgatgtc ctgttgtctt 1260
aatccaattc tatatgggtt tcttaataat gggattaaag ctgatttagt gtcccttata 1320
cactgtcttc atatgtaa 1338

<210> 533
<211> 445
<212> PRT
<213> Homo sapiens

<400> 533
Met Asp Leu Glu Leu Asp Glu Tyr Tyr Asn Lys Thr Leu Ala Thr Glu
1 5 10 15
Asn Asn Thr Ala Ala Thr Arg Asn Ser Asp Phe Pro Val Trp Asp Asp
20 25 30
Tyr Lys Ser Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr
35 40 45
Thr Phe Val Ser Leu Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met
50 55 60
Ala Leu Met Lys Lys Arg Asn Gln Lys Thr Thr Val Asn Phe Leu Ile
65 70 75 80

His Leu Phe His Val Val Thr Asp Phe Asn Asp Asn Leu Ile Ser Asn
385 390 395 400

Arg His Phe Lys Leu Val Tyr Cys Ile Cys His Leu Leu Gly Met Met
405 410 415

Ser Cys Cys Leu Asn Pro Ile Leu Tyr Gly Phe Leu Asn Asn Gly Ile
420 425 430

Lys Ala Asp Leu Val Ser Leu Ile His Cys Leu His Met
435 440 445

<210> 534
<211> 1257
<212> DNA
<213> Homo sapiens

<400> 534
atgcgcctca acagctccgc gccgggaacc ccgggcacgc cggccgccga ccccttccag 60
cgggcgccagg ccggactgga ggaggcgctg ctggccccgg gcttcggcaa cgcttcgggc 120
aacgcgtcgg agcgcgtcct ggccgcaccc agcagcgagc tggacgtgaa caccgacatc 180
tactccaaag tgctgggtgac cgccgtgtac ctggcgctct tcgtgggtggg cacgggtgggc 240
aacacgggtga cggcggttcac gctggcgcgg aagaagtcgc tgcagagcct gcagagcacg 300
gtgcattacc acctgggcag cctggcgctg tccgacctgc tacccttgcg gctggccatg 360
cccgtggagc tgtacaactt catctgggtg caccacccct gggccttcgg cgacgccggc 420
tgccgcggct actacttcct gcgcgacgcc tgcacctacg ccacggccct caacgtggcc 480
agcctgagtg tggagcgcta cctggccatc tgccacccct tcaaggccaa gacctcatg 540
tcccgaagcc gcaccaagaa gttcatcagc gccatctggc tcgcctcggc cctgctgacg 600
gtgcctatgc tggtcaccat gggcgagcag aaccgcagcg ccgacggcca gcacgccggc 660
ggcctgggtg gcacccccac catccacact gccacgtca aggtcgatc acaggtcaac 720
accttcattg ccttcattat ccccatgggtg gtcattctcg tctgaacac catcatcgcc 780
aacaagctga ccgtcatggt acgccaggcg gccgagcagg gccaaagtgt cacgggtcggg 840
ggcgagcaca gcacattcag catggccatc gagcctggca gggctccagg cctgcggcac 900
ggcaagcgcg tctacgtgc agtgggtcat gcctttgtgg tctgctggct gccctaccac 960
gtgcggcgcc tcatgttctg ctacatctcg gatgagcagt ggactccgtt cctctatgac 1020
ttctaccact acttctacat ggtgaccaac gcactcttct acgtcagctc caccatcaac 1080
cccatcctgt acaacctcgt ctctgccaac ttccgccaca tcttcctggc cacactggcc 1140
tgccctctgcc cgggtgtggcg gcgcaggagg aagaggccag ccttctcgag gaaggccgac 1200
agcgtgtcca gcaaccacac cctctccagc aatgccaccc gcgagacgct gtactag 1257

<210> 535
<211> 418
<212> PRT
<213> Homo sapiens

<400> 535
Met Arg Leu Asn Ser Ser Ala Pro Gly Thr Pro Gly Thr Pro Ala Ala
1 5 10 15
Asp Pro Phe Gln Arg Ala Gln Ala Gly Leu Glu Glu Ala Leu Leu Ala
20 25 30
Pro Gly Phe Gly Asn Ala Ser Gly Asn Ala Ser Glu Arg Val Leu Ala
35 40 45

Ala Pro Ser Ser Glu Leu Asp Val Asn Thr Asp Ile Tyr Ser Lys Val
50 55 60

Leu Val Thr Ala Val Tyr Leu Ala Leu Phe Val Val Gly Thr Val Gly
65 70 75 80

Asn Thr Val Thr Ala Phe Thr Leu Ala Arg Lys Lys Ser Leu Gln Ser
85 90 95

Leu Gln Ser Thr Val His Tyr His Leu Gly Ser Leu Ala Leu Ser Asp
100 105 110

Leu Leu Thr Leu Leu Leu Ala Met Pro Val Glu Leu Tyr Asn Phe Ile
115 120 125

Trp Val His His Pro Trp Ala Phe Gly Asp Ala Gly Cys Arg Gly Tyr
130 135 140

Tyr Phe Leu Arg Asp Ala Cys Thr Tyr Ala Thr Ala Leu Asn Val Ala
145 150 155 160

Ser Leu Ser Val Glu Arg Tyr Leu Ala Ile Cys His Pro Phe Lys Ala
165 170 175

Lys Thr Leu Met Ser Arg Ser Arg Thr Lys Lys Phe Ile Ser Ala Ile
180 185 190

Trp Leu Ala Ser Ala Leu Leu Thr Val Pro Met Leu Phe Thr Met Gly
195 200 205

Glu Gln Asn Arg Ser Ala Asp Gly Gln His Ala Gly Gly Leu Val Cys
210 215 220

Thr Pro Thr Ile His Thr Ala Thr Val Lys Val Val Ile Gln Val Asn
225 230 235 240

Thr Phe Met Ser Phe Ile Phe Pro Met Val Val Ile Ser Val Leu Asn
245 250 255

Thr Ile Ile Ala Asn Lys Leu Thr Val Met Val Arg Gln Ala Ala Glu
260 265 270

Gln Gly Gln Val Cys Thr Val Gly Gly Glu His Ser Thr Phe Ser Met
275 280 285

Ala Ile Glu Pro Gly Arg Val Gln Ala Leu Arg His Gly Lys Arg Val
290 295 300

Leu Arg Ala Val Val Ile Ala Phe Val Val Cys Trp Leu Pro Tyr His
305 310 315 320

Val Arg Arg Leu Met Phe Cys Tyr Ile Ser Asp Glu Gln Trp Thr Pro
325 330 335

Phe Leu Tyr Asp Phe Tyr His Tyr Phe Tyr Met Val Thr Asn Ala Leu
340 345 350

Phe Tyr Val Ser Ser Thr Ile Asn Pro Ile Leu Tyr Asn Leu Val Ser
355 360 365

Ala Asn Phe Arg His Ile Phe Leu Ala Thr Leu Ala Cys Leu Cys Pro
370 375 380

Val Trp Arg Arg Arg Arg Lys Arg Pro Ala Phe Ser Arg Lys Ala Asp
385 390 395 400

Ser Val Ser Ser Asn His Thr Leu Ser Ser Asn Ala Thr Arg Glu Thr
405 410 415

Leu Tyr

<210> 536
<211> 1233
<212> DNA
<213> Homo sapiens

<400> 536
atggaaccca gcagcccgcg gcccccgcg cccagctcca acccggggct gagcctggac 60
gcccggctgg gcgtggacac togeectctgg gccaaagggtgc tggtcacgcg gctctacgca 120
ctcatctggg cgctggggcg ggccgggcaat gcgctgtccg tgcacgtggg gctgaaggcg 180
cgggccgggc gcgcggggcg cctgcgccac cacgtgctca gcctggcgct cgcggggcctg 240
ctgctgctgc tggtcggcgt gccgggtggag ctctacagct tcgtgtggtt ccactacccc 300
tgggtcttcg gcgacctggg ctgccgcggc tactacttcg tgcacgagct gtgcgcctac 360
gccacgggtgc tgagcgtggc aggcctgagc gccgagcgct gcctagccgt gtgccagccc 420
ctgcgtgccc gcagcctgct gaagccacgc cggaccgggt ggctgggtggc gctctcgtgg 480
gccgcctcgc tcggcctcgc cctgcccattg gccgtcatca tggggcagaa gcacgaactc 540
gagacggcgg acgggggagcc ggagcccgcc tcgcgagtgt gcacgggtgct ggtgagccgc 600
accgcgctcc aagtctttat ccagggtgaat gtgctgggtg ccttcgtgct ccccttgcca 660
ctaactgctt tcctgaatgg ggtcacagtg agccacctgc tggccctctg ctcccaagtg 720
ccgtccactt ctaccccggg cagctccacc cccagccgcc tggagctgct gaggtaggag 780
ggtctcctca gcttcatcgt atggaagaag acctttatcc agggaggcca ggtcagcctg 840
gtgagacata aagacgtgcg ccggatccgc agcctccagc gcagcaagca ggttctcaga 900
gccatcgtgg tcatgtatgt catctgctgg ctgccgtacc atgcccgag gctcatgtac 960
tgctacgtac ctgatgacgc gtggactgac ccactgtaca atttctacca ctacttctac 1020
atggtgacca acacactttt ctacgtcagc tcagctgtga ctctctctct ctacaacgcc 1080
gtgtctcctt ccttcagaaa actcttctct gaagccgtca gctccctgtg tggagagcac 1140
caccatga agcggttacc ccgaagccc cagagtccca ccctaattga tacagcttca 1200
ggctttgggg atccccccaga aaccgggacc tga 1233

<210> 537
<211> 410
<212> PRT
<213> Homo sapiens

<400> 537
Met Glu Thr Ser Ser Pro Arg Pro Pro Arg Pro Ser Ser Asn Pro Gly
1 5 10 15

Leu Ser Leu Asp Ala Arg Leu Gly Val Asp Thr Arg Leu Trp Ala Lys
20 25 30

His Tyr Phe Tyr Met Val Thr Asn Thr Leu Phe Tyr Val Ser Ser Ala
340 345 350

Val Thr Pro Leu Leu Tyr Asn Ala Val Ser Ser Ser Phe Arg Lys Leu
355 360 365

Phe Leu Glu Ala Val Ser Ser Leu Cys Gly Glu His His Pro Met Lys
370 375 380

Arg Leu Pro Pro Lys Pro Gln Ser Pro Thr Leu Met Asp Thr Ala Ser
385 390 395 400

Gly Phe Gly Asp Pro Pro Glu Thr Arg Thr
405 410

<210> 538
<211> 1119
<212> DNA
<213> Homo sapiens

<400> 538
atggaaccgg cccctccgc cggcgccgag ctgcagcccc cgctcttcgc caacgcctcg 60
gacgcctacc ctagcgcctt ccccagcgct ggcgccaatg cgtcgggggc gccaggaccg 120
gggagcgcct cgctccctcgc cctggcaatc gccatcacccg cgctctactc ggccgtgtgc 180
gccgtggggc tgctgggcaa cgtgcttgct atgttcggca tcgtccggta cactaagatg 240
aagacggcca ccaacatcta catcttcaac ctggccttag ccgatgcgct ggccaccagc 300
acgtgcctt tccagagtgc caagtacctg atggagacgt ggcccttcgg cgagctgctc 360
tgcaaggctg tgctctccat cgactactac aatatgttca ccagcatctt cacgctcacc 420
atgatgagtg ttgaccgcta catcgctgct tgccaccctg tcaaggccct ggacttcgc 480
acgcctgcca aggccaaagt gatcaacatc tgtatctggg tcctggcctc aggcgttggc 540
gtgcccacca tggatcatggc tgtgaccogt ccccgggacg gtgcagtggg gtgcatgctc 600
cagttcccca gcccagctg gtactgggac acggtgacca agatctgcgt gttcctcttc 660
gccttcgtgg tgccatcct catcatcacc gtgtgctatg gcctcatgct gctgcgcctg 720
cgcagtgtgc gcctgctgct gggctccaag gagaaggacc gcagcctgcg gcgcatcaag 780
cgcatgggtg tgggtggtgt gggcgccctc gtggtgtgtt gggcgcccat ccacatcttc 840
gtcatcgtct ggacgctggt ggacatcgac cggcgcgacc cgctggtggt ggctgcgcctg 900
cacctgtgca tcgcgctggg ctacgccaat agcagcctca acccctgct ctacgctttc 960
ctcgacgaga acttcaagcg ctgcttccgc cagctctgcc gcaagccctg cggccgcca 1020
gacccagca gcttcagcgg gcccgcgaa gccacggccc gcgagcgtgt caccgcctgc 1080
accccgctcg atggtcccg cgggtggcgt gccgcctga 1119

<210> 539
<211> 372
<212> PRT
<213> Homo sapiens

<400> 539
Met Glu Pro Ala Pro Ser Ala Gly Ala Glu Leu Gln Pro Pro Leu Phe
1 5 10 15

Ala Asn Ala Ser Asp Ala Tyr Pro Ser Ala Phe Pro Ser Ala Gly Ala
20 25 30

Asn Ala Ser Gly Pro Pro Gly Pro Gly Ser Ala Ser Ser Leu Ala Leu

35	40	45
Ala Ile Ala Ile Thr Ala Leu Tyr Ser Ala Val Cys Ala Val Gly Leu		
50	55	60
Leu Gly Asn Val Leu Val Met Phe Gly Ile Val Arg Tyr Thr Lys Met		
65	70	75
Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala		
	85	90
Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Ala Lys Tyr Leu Met Glu		
	100	105
Thr Trp Pro Phe Gly Glu Leu Leu Cys Lys Ala Val Leu Ser Ile Asp		
	115	120
Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Thr Met Met Ser Val		
	130	135
Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu Asp Phe Arg		
	145	150
Thr Pro Ala Lys Ala Lys Leu Ile Asn Ile Cys Ile Trp Val Leu Ala		
	165	170
Ser Gly Val Gly Val Pro Ile Met Val Met Ala Val Thr Arg Pro Arg		
	180	185
Asp Gly Ala Val Val Cys Met Leu Gln Phe Pro Ser Pro Ser Trp Tyr		
	195	200
Trp Asp Thr Val Thr Lys Ile Cys Val Phe Leu Phe Ala Phe Val Val		
	210	215
Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Leu Leu Arg Leu		
	225	230
Arg Ser Val Arg Leu Leu Ser Gly Ser Lys Glu Lys Asp Arg Ser Leu		
	245	250
Arg Arg Ile Lys Arg Met Val Leu Val Val Val Gly Ala Phe Val Val		
	260	265
Cys Trp Ala Pro Ile His Ile Phe Val Ile Val Trp Thr Leu Val Asp		
	275	280
Ile Asp Arg Arg Asp Pro Leu Val Val Ala Ala Leu His Leu Cys Ile		
	290	295
Ala Leu Gly Tyr Ala Asn Ser Ser Leu Asn Pro Val Leu Tyr Ala Phe		
	305	310
Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Gln Leu Cys Arg Lys Pro		
	325	330
Cys Gly Arg Pro Asp Pro Ser Ser Phe Ser Arg Pro Arg Glu Ala Thr		

<210> 542
 <211> 1143
 <212> DNA
 <213> Homo sapiens

<400> 542
 atggaatccc cgattcagat cttccgcggg gagcctggcc ctacctgcgc cccgagcgcc 60
 tgccctgcccc ccaacagcag cgcctgggtt cccggctggg ccgagcccca cagcaacggc 120
 agcgccgggt cggaggacgc gcagctggag cccgcgcaca tctccccggc catcccggtc 180
 atcatcacgg cgggtctact cgtagtgttc gtcgtgggct tgggtgggcaa ctgctgggtc 240
 atgttcgtga tcatccgata cacaagatg aagacagcaa ccaacattta catatttaac 300
 ctggcttttg cagatgcttt agttactaca accatgccct ttcagagtag ggtctacttg 360
 atgaattcct ggctttttgg ggatgtgctg tgcaagatag taatttccat tgattactac 420
 aacatgttca ccagcatctt cacttgacc atgatgagcg tggaccgcta cattgccgtg 480
 tgccaccccc tgaaggcttt ggacttccgc acacccttga aggcaaagat catcaatata 540
 tgcattgtgc tgcgtcgtc atctgttggc atctctgcaa tagtccttgg aggcacacaaa 600
 gtcagggaag acgtcgatgt cattgagtg ccttgcagt tcccagatga tgactactcc 660
 tgggtgggacc tcttcatgaa gatctgcgtc ttcatttttg ccttcgtgat ccctgtcctc 720
 atcatcatcg tctgtacac cctgatgata ctgcgtctca agagcgtccg gctcctttct 780
 ggctcccgag agaaagatcg caacctgcgt aggatcaaga gactggctct ggtgggtggg 840
 gcggttttgc tgcgtcgtg gactcccatt cacatattca tctgggtgga ggctctgggg 900
 agcacctccc acagcacagc tgctctctcc agctattact tctgcatcgc cttaggctat 960
 accaacagta gcctgaatcc cattctctac gcctttcttg atgaaaactt caagcgggtg 1020
 ttccgggact tctgctttcc actgaagatg aggatggagc ggcagagcac tagcagagtc 1080
 cgaaatacag ttcaggatcc tgcttacctg agggacatcg atgggatgaa taaaccagta 1140
 tga 1143

<210> 543
 <211> 380
 <212> PRT
 <213> Homo sapiens

<400> 543
 Met Glu Ser Pro Ile Gln Ile Phe Arg Gly Glu Pro Gly Pro Thr Cys
 1 5 10 15
 Ala Pro Ser Ala Cys Leu Pro Pro Asn Ser Ser Ala Trp Phe Pro Gly
 20 25 30
 Trp Ala Glu Pro Asp Ser Asn Gly Ser Ala Gly Ser Glu Asp Ala Gln
 35 40 45
 Leu Glu Pro Ala His Ile Ser Pro Ala Ile Pro Val Ile Ile Thr Ala
 50 55 60
 Val Tyr Ser Val Val Phe Val Val Gly Leu Val Gly Asn Ser Leu Val
 65 70 75 80
 Met Phe Val Ile Ile Arg Tyr Thr Lys Met Lys Thr Ala Thr Asn Ile
 85 90 95
 Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala Leu Val Thr Thr Thr Met
 100 105 110
 Pro Phe Gln Ser Thr Val Tyr Leu Met Asn Ser Trp Pro Phe Gly Asp


```

atggacagca ggcgtgcccc cacgaacgcc agcaattgca ctgatgcctt ggcgtactca 60
agttgctccc cagcaccag ccccggttcc tgggtcaact tgtcccactt agatggcaac 120
ctgtccgacc catgcgggtcc gaaccgcacc aacctgggcg ggagagacag cctgtgccct 180
ccgaccggca gtccctccat gatcacggcc atcacgatca tggccctcta ctccatcggtg 240
tgcgtggtgg ggctcttcgg aaacttcctg gtcattgtatg tgattgtcag atacaccaag 300
atgaagactg ccaccaacat ctacattttc aaccttgctc tggcagatgc cttagccacc 360
agtaccctgc ccttccagag tgtgaattac ctaatgggaa catggccatt tggaaccatc 420
ctttgcaaga tagtgatctc catagattac tataacatgt tcaccagcat attcaccctc 480
tgcaccatga gtgttgatcg atacattgca gtctgccacc ctgtcaaggc cttagatttc 540
cgtactcccc gaaatgccaa aattatcaat gtctgcaact ggatcctctc ttcagccatt 600
ggctcttcctg taatgttcat ggctacaaca aaatacaggc aaggttccat agattgtaca 660
ctaacattct ctcattccaac ctggtactgg gaaaacctcg tgaagatctg tgttttcac 720
ttcgcttcca ttatgccagt gctcatcatt accgtgtgct atggactgat gatcttgccg 780
ctcaagagtg tccgcatgct ctctggctcc aaagaaaagg acaggaatct tcgaaggatc 840
aagaggatgg tgctggtggt ggtggctgtg ttcactgtct gctggactcc cattcacatt 900
tacgtcatca ttaaagcctt ggttacaatc ccagaaacta cgttccagac tgtttcttgg 960
cacttctgca ttgctctagg ttacacaaac agctgcctca acccagtcct ttatgcattt 1020
ctggatgaaa acttcaaacg atgcttcaga gagttctgta tcccaacctc ttccaacatt 1080
gagcaacaaa actccactcg aattcgctag aacactagag accaccctc cacggccaat 1140
acagtggata gaactaatca tcagctagaa aatctggaag cagaaactgc tccgttgccc 1200
taa 1203

```

<210> 545
 <211> 400
 <212> PRT
 <213> Homo sapiens

<400> 545

Met	Asp	Ser	Ser	Ala	Ala	Pro	Thr	Asn	Ala	Ser	Asn	Cys	Thr	Asp	Ala
1				5				10						15	
Leu	Ala	Tyr	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Gly	Ser	Trp	Val
			20					25					30		
Asn	Leu	Ser	His	Leu	Asp	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro	Asn
		35					40					45			
Arg	Thr	Asn	Leu	Gly	Gly	Arg	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly	Ser
		50				55					60				
Pro	Ser	Met	Ile	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val
	65				70					75				80	
Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val
				85					90					95	
Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu
			100					105					110		
Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val
		115					120					125			
Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile
		130				135					140				
Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu

145		150		155		160
Cys Thr Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys						
	165			170		175
Ala Leu Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Ile Asn Val Cys						
	180			185		190
Asn Trp Ile Leu Ser Ser Ala Ile Gly Leu Pro Val Met Phe Met Ala						
	195			200		205
Thr Thr Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser						
	210			215		220
His Pro Thr Trp Tyr Trp Glu Asn Leu Val Lys Ile Cys Val Phe Ile						
	225			230		235
Phe Ala Phe Ile Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu						
	245			250		255
Met Ile Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu						
	260			265		270
Lys Asp Arg Asn Leu Arg Arg Ile Lys Arg Met Val Leu Val Val Val						
	275			280		285
Ala Val Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile						
	290			295		300
Lys Ala Leu Val Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp						
	305			310		315
His Phe Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val						
	325			330		335
Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe						
	340			345		350
Cys Ile Pro Thr Ser Ser Asn Ile Glu Gln Gln Asn Ser Thr Arg Ile						
	355			360		365
Arg Gln Asn Thr Arg Asp His Pro Ser Thr Ala Asn Thr Val Asp Arg						
	370			375		380
Thr Asn His Gln Leu Glu Asn Leu Glu Ala Glu Thr Ala Pro Leu Pro						
	385			390		395
						400

<210> 546
 <211> 1182
 <212> DNA
 <213> Homo sapiens
 <400> 546

```

atggacagca ggcgtgcccc cacgaacgcc agcaattgca ctgatgcctt ggcgtactca 60
agttgctccc cagcacccag ccccggttcc tgggtcaact tgtcccactt agatggcaac 120
ctgtccgacc catgcggtcc gaaccgcacc aacctgggcg ggagagacag cctgtgccct 180
ccgaccggca gtccctccat gatcacggcc atcacgatca tggccctcta ctccatcgtg 240
tgcgtggtgg ggctcttcgg aaacttcctg gtcattgtat tgattgtcag atacaccaag 300
atgaagactg ccaccaacat ctacattttc aaccttgctc tggcagatgc cttagccacc 360
agtaccctgc ccttccagag tgtgaattac ctaatgggaa catggccatt tggaaccatc 420
ctttgcaaga tagtgatctc catagattac tataacatgt tcaccagcat attcaccctc 480
tgcaccatga gtgttgatcg atacattgca gtctgccacc ctgtcaaggc cttagatttc 540
cgtactcccc gaaatgccaa aattatcaat gtctgcaact ggatcctctc ttcagccatt 600
ggctcttcctg taatgttcat ggctacaaca aaatacaggc aaggttccat agattgtaca 660
ctaacattct ctcattccaac ctgggtactgg gaaaacctcg tgaagatctg tgttttcac 720
ttcgcccttca ttatgccagt gtcattcatt accgtgtgct atggactgat gatcttgcg 780
ctcaagagtg tccgcatgct ctctggctcc aaagaaaagg acaggaatct tcgaaggatc 840
aagaggatgg tgctggtggt ggtggctgtg ttcactgctc gctggactcc cattcacatt 900
tacgtcatca ttaaagcctt ggttacaact ccagaaacta cgttccagac tgtttcttgg 960
cacttctgca ttgctctagg ttacacaaac agctgcctca acccagtcct ttatgcattt 1020
ctggatgaaa acttcaaacg atgcttcaga gagttctgta tcccaacctc ttccaacatt 1080
gagcaacaaa actccactcg aattcgtcag aacactagag accaccctc cacggccaat 1140
acagtggata gaactaatca tcagctagta cgcagtctct ag 1182

```

<210> 547
 <211> 392
 <212> PRT
 <213> Homo sapiens

<400> 547

Met	Asp	Ser	Ser	Ala	Ala	Pro	Thr	Asn	Ala	Ser	Asn	Cys	Thr	Asp	Ala
1				5				10						15	
Leu	Ala	Tyr	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Gly	Ser	Trp	Val
			20					25					30		
Asn	Leu	Ser	His	Leu	Asp	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro	Asn
		35					40					45			
Arg	Thr	Asn	Leu	Gly	Gly	Arg	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly	Ser
	50					55					60				
Pro	Ser	Met	Ile	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val
65					70					75				80	
Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val
				85					90					95	
Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu
			100					105					110		
Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val
		115					120					125			
Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile
	130					135					140				
Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu
145					150					155					160

	165		170		175										
Val	Pro	Gln	Ala	Ala	Val	Met	Glu	Cys	Ser	Ser	Val	Leu	Pro	Glu	Leu
			180					185					190		
Ala	Asn	Arg	Thr	Arg	Leu	Phe	Ser	Val	Cys	Asp	Glu	Arg	Trp	Ala	Asp
		195					200					205			
Asp	Leu	Tyr	Pro	Lys	Ile	Tyr	His	Ser	Cys	Phe	Phe	Ile	Val	Thr	Tyr
	210					215					220				
Leu	Ala	Pro	Leu	Gly	Leu	Met	Ala	Met	Ala	Tyr	Phe	Gln	Ile	Phe	Arg
225					230					235					240
Lys	Leu	Trp	Gly	Arg	Gln	Ile	Pro	Gly	Thr	Thr	Ser	Ala	Leu	Val	Arg
				245					250						255
Asn	Trp	Lys	Arg	Pro	Ser	Asp	Gln	Leu	Gly	Asp	Leu	Glu	Gln	Gly	Leu
			260					265						270	
Ser	Gly	Glu	Pro	Gln	Pro	Arg	Gly	Arg	Ala	Phe	Leu	Ala	Glu	Val	Lys
		275					280					285			
Gln	Met	Arg	Ala	Arg	Arg	Lys	Thr	Lys	Lys	Met	Leu	Met	Val	Val	Leu
	290					295					300				
Leu	Val	Phe	Ala	Leu	Cys	Tyr	Leu	Pro	Ile	Ser	Val	Leu	Asn	Val	Leu
305					310					315					320
Lys	Arg	Val	Phe	Gly	Met	Phe	Arg	Gln	Ala	Ser	Asp	Arg	Glu	Ala	Val
				325					330					335	
Tyr	Ala	Cys	Phe	Thr	Phe	Ser	His	Trp	Leu	Val	Tyr	Ala	Asn	Ser	Ala
			340					345					350		
Ala	Asn	Pro	Ile	Ile	Tyr	Asn	Phe	Leu	Ser	Gly	Lys	Phe	Arg	Glu	Gln
		355					360					365			
Phe	Lys	Ala	Ala	Phe	Ser	Cys	Cys	Leu	Pro	Gly	Leu	Gly	Pro	Cys	Gly
	370					375					380				
Ser	Leu	Lys	Ala	Pro	Ser	Pro	Arg	Ser	Ser	Ala	Ser	His	Lys	Ser	Leu
385					390					395					400
Ser	Leu	Gln	Ser	Arg	Cys	Ser	Ile	Ser	Lys	Ile	Ser	Glu	His	Val	Val
				405					410					415	
Leu	Thr	Ser	Val	Thr	Thr	Val	Leu	Pro							
			420					425							

<210> 550
 <211> 1335
 <212> DNA
 <213> Homo sapiens
 <400> 550

```

atgtccggca ccaaattgga ggactcccc ccttgctgca actgggtcatc tgcttcggag 60
ctgaatgaaa ctcaagagcc ctttttaaac cccaccgact atgacgacga ggaattcctg 120
cggtacctgt ggagggaata cctgcacccg aaagaatatg agtgggtcct gatcgccggg 180
tacatcatcg tgttcgtcgt ggctctcatt gggaacgtcc tggtttgtgt gccagtgtgg 240
aagaaccacc acatgaggac ggtaaccaac tacttcatag tcaatctttc tctggctgat 300
gtgctcgtga ccatcacctg ccttcacgac acactggctg tggatatcac tgagacctgg 360
ttttttggac agtccctttg caaagtgatt ccttatctac agaccgtgtc ggtgtctgtg 420
tctgtcctca cactgagctg tatcgcttgg gatcggtggg atgcaatctg tcaccctttg 480
atgtttaaga gcacagcaaa gcggggcccg aacagcattg tcatcatctg gattgtctcc 540
tgcatataaa tgattcctca ggccatcgtc atggagtga gcaccgtgtt cccaggctta 600
gccaataaaa ccaccctctt tacggtgtgt gatgagcgt ggggtgggtg aatttatccc 660
aagatgtacc acatctgttt ctttctgggt acatacatgg caccactgtg tctcatgggt 720
ttggcttata tgcaaataat tcgcaaactc tgggtgtcga agatccctgg aacatcatct 780
gtagttcaga gaaaatggaa gccctgcag cctgtttcac agcctcgagg gccaggacag 840
ccaacgaagt cccggatgag cgctgtggcg gctgaaataa agcagatccg agccagaagg 900
aaaacaaaac ggatgttgat ggttgtgctt ttggtatttg caatttgcta tctaccaatt 960
agcatcctca atgtgctaaa gagagtattt gggatgtttg cccatactga agacagagag 1020
actgtgtatg cctggtttac cttttcacac tggcttgtat atgccaatag tgctgcgaat 1080
ccaattatct ataattttct cagtggaaaa tttcgagagg aatttaaagc tgcgttttct 1140
tgctgttgcc ttggagttca ccacgccag gaggatcggc tcaccagggg acgaactagc 1200
acagagagcc ggaagtcctt gaccactcaa atcagcaact ttgataacat atcaaaactt 1260
tctgagcaag ttgtgctcac tagcataagc acactcccag cagccaatgg agcaggacca 1320
cttcaaaact ggtag                                     1335

```

<210> 551
 <211> 444
 <212> PRT
 <213> Homo sapiens

<400> 551
 Met Ser Gly Thr Lys Leu Glu Asp Ser Pro Pro Cys Arg Asn Trp Ser
 1 5 10 15
 Ser Ala Ser Glu Leu Asn Glu Thr Gln Glu Pro Phe Leu Asn Pro Thr
 20 25 30
 Asp Tyr Asp Asp Glu Glu Phe Leu Arg Tyr Leu Trp Arg Glu Tyr Leu
 35 40 45
 His Pro Lys Glu Tyr Glu Trp Val Leu Ile Ala Gly Tyr Ile Ile Val
 50 55 60
 Phe Val Val Ala Leu Ile Gly Asn Val Leu Val Cys Val Ala Val Trp
 65 70 75 80
 Lys Asn His His Met Arg Thr Val Thr Asn Tyr Phe Ile Val Asn Leu
 85 90 95
 Ser Leu Ala Asp Val Leu Val Thr Ile Thr Cys Leu Pro Ala Thr Leu
 100 105 110
 Val Val Asp Ile Thr Glu Thr Trp Phe Phe Gly Gln Ser Leu Cys Lys
 115 120 125
 Val Ile Pro Tyr Leu Gln Thr Val Ser Val Ser Val Ser Val Leu Thr
 130 135 140

<210> 552
 <211> 1407
 <212> DNA
 <213> Homo sapiens

<400> 552
 atggctggtg tcgtgcacgt ttccctgggt gctctcctcc tgctgcctat ggccccctgcc 60
 atgcattctg actgcatctt caagaaggag caagccatgt gcctggagaa gatccagagg 120
 gccaatgagc tgatgggctt caatgattcc tctccagggt gtccctgggat gtgggacaac 180
 atcacgtgtt ggaagcccg ccatgtgggt gagatgggtc tggtcagctg ccctgagctc 240
 ttccgaatct tcaaccacaga ccaagtctgg gagaccgaaa ccattggaga gtctgatttt 300
 ggtgacagta actccttaga tctctcagac atgggagtggt tgagccggaa ctgcacggag 360
 gatggctggt cggaaccctt ccctcattac tttgatgcct gtggggttga tgaatatgaa 420
 tctgagactg gggaccagga ttattactac ctgtcagtga aggccctcta cacggttggc 480
 tacagcacat cctcgtcac cctcaccact gccatgggtca tcccttgcg cttccggaag 540
 ctgcactgca cagcgaactt catccacatg aacctgtttg tgcgttcat gctgagggcg 600
 atctccgtct tcatcaaaga ctggattctg tatgcggagc aggacagcaa ccaactgcttc 660
 atctccactg tggaatgtaa ggccgtcatg gttttcttcc actactgtgt tgtgtccaac 720
 tacttctggc tgttcatcga gggcctgtac ctcttcactc tgctgggtgga gaccttcttc 780
 cctgaaagga gatacttcta ctggtacacc atcattgggt gggggacccc aactgtgtgt 840
 gtgacagtgt gggctacgct gagactctac tttgatgaca caggctgctg ggatatgaat 900
 gacagcacag ctctgtgggt ggtgatcaaa ggccctgtgg ttggctctat catggttaac 960
 tttgtgcttt ttattggcat tatcgtcatc ctgtgcaga aacttcagtc tccagacatg 1020
 ggaggcaatg agtccagcat ctacttgcca ctggcccgt cccccctgct gctcatccca 1080
 ctattcggaa tccactacac agtatttgcc ttctcccag agaatgtcag caaaagggaa 1140
 agactcgtgt ttgagctggg gctgggctcc ttccagggtc ttgtgggtggc tgttctctac 1200
 tgttttctga atggtgaggt acaagcggag atcaagcgaa aatggcgaag ctggaaggtg 1260
 aacogttact tcgctgtgga cttcaagcac cgacaccgt ctctggccag cagtggggtg 1320
 aatgggggca cccagctctc catcctgagc aagagcagct cccaaatccg catgtctggc 1380
 ctccctgctg acaatctggc cacctga 1407

<210> 553
 <211> 468
 <212> PRT
 <213> Homo sapiens

<400> 553
 Met Ala Gly Val Val His Val Ser Leu Ala Ala Leu Leu Leu Leu Pro
 1 5 10 15
 Met Ala Pro Ala Met His Ser Asp Cys Ile Phe Lys Lys Glu Gln Ala
 20 25 30
 Met Cys Leu Glu Lys Ile Gln Arg Ala Asn Glu Leu Met Gly Phe Asn
 35 40 45
 Asp Ser Ser Pro Gly Cys Pro Gly Met Trp Asp Asn Ile Thr Cys Trp
 50 55 60
 Lys Pro Ala His Val Gly Glu Met Val Leu Val Ser Cys Pro Glu Leu
 65 70 75 80
 Phe Arg Ile Phe Asn Pro Asp Gln Val Trp Glu Thr Glu Thr Ile Gly
 85 90 95

Cys Phe Leu Asn Gly Glu Val Gln Ala Glu Ile Lys Arg Lys Trp Arg
 405 410 415

Ser Trp Lys Val Asn Arg Tyr Phe Ala Val Asp Phe Lys His Arg His
 420 425 430

Pro Ser Leu Ala Ser Ser Gly Val Asn Gly Gly Thr Gln Leu Ser Ile
 435 440 445

Leu Ser Lys Ser Ser Ser Gln Ile Arg Met Ser Gly Leu Pro Ala Asp
 450 455 460

Asn Leu Ala Thr
 465

<210> 554
 <211> 1029
 <212> DNA
 <213> Homo sapiens

<400> 554
 atggagccac atgactcctc ccacatggac tctgagttcc gatacactct cttcccgatt 60
 gtttacagca tcatctttgt gctcgggggc attgctaata gctacgtgct gtgggtcttt 120
 gccgcctgt acccttgcaa gaaattcaat gagataaaga tcttcattgt gaacctcacc 180
 atggcggaca tgctcttctt gatcaccttg ccactttgga ttgtctacta ccaaaaccag 240
 ggcaactgga tactcccaa attcctgtgc aacgtggctg gctgcctttt cttcatcaac 300
 acctactgct ctgtggcctt cctgggcgtc atcacttata accgcttcca ggcagtaact 360
 cgccccatca agactgctca ggccaacacc cgcaagcgtg gcatctcttt gtccttggtc 420
 atctgggtgg ccattgtggg agctgcatcc tacttctca tcttggaact caccaacaca 480
 gtgcccgcag gtgctggctc aggaacgtc actcgctgct ttgagcatta cgagaagggc 540
 agcgtgccag tctcatcat ccacatcttc atcgtgttca gcttcttctt ggtcttctc 600
 atcatctctt tctgcaacct ggatcatcat cgtacctgct tcatgcagcc ggtgcagcag 660
 cagcgcaacg ctgaagtcaa gcgcggggcg aagtggatgg tgtgcacggt cttggcgggtg 720
 ttcacatctt gcttctgtgc ccaccacgtg gtgcagctgc cctggaccct tgctgagctg 780
 ggcttccagg acagcaaatt ccaccaggcc attaatgatg cacatcaggt caccctctgc 840
 ctcttagca ccaactgtgt cttagaccct gttatctact gtttcctcac caagaagttc 900
 cgcaagcacc tcaccgaaaa gttctacagc atgcgcagta gccggaaatg ctcccgggcc 960
 accacggata cggtcactga agtggttgtg ccattcaacc agatccctgg caattccctc 1020
 aaaaattag 1029

<210> 555
 <211> 342
 <212> PRT
 <213> Homo sapiens

<400> 555
 Met Glu Pro His Asp Ser Ser His Met Asp Ser Glu Phe Arg Tyr Thr
 1 5 10 15

Leu Phe Pro Ile Val Tyr Ser Ile Ile Phe Val Leu Gly Val Ile Ala
 20 25 30

Asn Gly Tyr Val Leu Trp Val Phe Ala Arg Leu Tyr Pro Cys Lys Lys
 35 40 45

<210> 556
 <211> 1209
 <212> DNA
 <213> Homo sapiens

<400> 556
 atgagccctt gcggggccct caacctgagc ctggcgggcg aggcgaccac atgcgcggcg 60
 ccctgggtcc ccaacacgtc ggccgtgccg ccgtcgggcg cttcgccgc gctgcccac 120
 ttctccatga cgctggggcg cgtgtccaac ctgctggcg tgccgctgct ggccagggc 180
 gcggggccgc tgcgacgccg ccgctcgcc accaccttc tgctgttcgt ggccagcctg 240
 ctggccaccg acctggcgcg ccacgtgatc ccgggcgcgc tgggtgctgc tctgtacact 300
 gcggggcgcg ctccggccgg cggggcctgc cacttcctgg gcggctgcat ggtcttcttc 360
 ggccgtgtcc cgtgctgct gggctgtggc atggccgtgg agcgtgctg gggcgctcacg 420
 cgcccgctgc tccacgcgc gcgggtctcg gtgcgccgc cgccctggc gctggccgcg 480
 gtggccgcgc tggccttggc cgtggcgctg ctgccgctgg cgccgctggg ccgctatgag 540
 ctgcagtacc cgggcacgtg gtgcttcac ggccgtgggc ccccgggcg ctggcgccag 600
 gcactgcttg ctggcctctt cgccagcctc ggccgtgtcg cgtcctcgc cgccgtggtg 660
 tgcaacacgc tcagcggcct ggccctgcat cgccgccgt ggccgacgcg ctcccgacgg 720
 cctcccccg cctcaggccc cgacagccgg cgtcgtggg gggcgacgcg acccgctcg 780
 gcctccgcct cgtccgcctc gtccatcgct tcggcctcca ccttctttgg cggctctcgg 840
 agcagcggct cggcacgcag agctcgcgcc cagcagctgg agatgaagg ccagcttgtc 900
 ggtatcatgg tgggtgctg catctgctgg agcccaatgc tgggtgttgg ggcgctggcc 960
 gtcggcggct ggagctctac ctccctgcag cggccactgt tcctggccgt ggcgcttggc 1020
 tcctggaacc agatcctgga cccttgggtg tacatcctac tgcgccaggc cgtgctgcgc 1080
 caactgcttc gcctcttggc cccgagggcc ggagccaagg gcggccccgc ggggctgggc 1140
 ctaacaccga gcgcctggga ggccagctcg ctgcgcagct cccggcacag cggcctcagc 1200
 cacttctaa 1209

<210> 557
 <211> 402
 <212> PRT
 <213> Homo sapiens

<400> 557
 Met Ser Pro Cys Gly Pro Leu Asn Leu Ser Leu Ala Gly Glu Ala Thr
 1 5 10 15
 Thr Cys Ala Ala Pro Trp Val Pro Asn Thr Ser Ala Val Pro Pro Ser
 20 25 30
 Gly Ala Ser Pro Ala Leu Pro Ile Phe Ser Met Thr Leu Gly Ala Val
 35 40 45
 Ser Asn Leu Leu Ala Leu Ala Leu Leu Ala Gln Ala Ala Gly Arg Leu
 50 55 60
 Arg Arg Arg Arg Ser Ala Thr Thr Phe Leu Leu Phe Val Ala Ser Leu
 65 70 75 80
 Leu Ala Thr Asp Leu Ala Gly His Val Ile Pro Gly Ala Leu Val Leu
 85 90 95
 Arg Leu Tyr Thr Ala Gly Arg Ala Pro Ala Gly Gly Ala Cys His Phe
 100 105 110

[illegible]

<210> 558
 <211> 1077
 <212> DNA
 <213> Homo sapiens

<400> 558
 atgggcaatg cctccaatga ctcccagtct gaggactgcg agacgcgaca gtggcttccc 60
 ccaggcgaaa gccagccat cagctccgtc atgtttctcg ccgggggtgct ggggaacctc 120
 atagcactgg cgctgctggc gcgccgtgg cggggggacg tggggtgcag cgccggccgc 180
 aggagctccc tctccttggt ccacgtgctg gtgaccgagc tgggtgtcac cgacctgctc 240
 gggacctgcc tcatcagccc agtgggtactg gcttcgtacg cgcggaacca gacctggtg 300
 gcaactggcg ccgagagccg cgcgtgcacc tacttcgctt tcgccatgac cttcttcagc 360
 ctggccacga tgcctatgct cttcgccatg gccctggagc gctacctctc gatcgggcac 420
 ccctacttct accagcgccg cgtctcgcc tccggggggc tggcctgct gcctgtcatc 480
 tatgcagtct cctgctctt ctgctcgctg ccgctgctgg actatgggca gtacgtccag 540
 tactgccccg ggacctgggtg cttcatccgg cacgggcgga ccgcttacct gcagctgtac 600
 gccaccctgc tgctgcttct cattgtctcg gtgctcgctt gcaacttcag tgtcattctc 660
 aacctcatcc gcatgcaccg ccgaagccgg agaagccgct gcggaccttc cctgggcagt 720
 ggccggggcg gccccggggc ccgcaggaga ggggaaagg tgtccatggc ggaggagacg 780
 gaccacaaga ttctcctggc tatcatgacc atcaccttcg ccgtctgctc cttgcctttc 840
 acgatttttg catatatgaa tgaaacctct tcccgaagg aaaaatggga cctccaagct 900
 cttagggttt tatcaattaa ttcaataatt gaccttggtg tctttgcoat ccttaggcct 960
 cctgtttctga gactaatgcg ttcagtcctc tgttgcgga ttccattaag aacacaagat 1020
 gcaacacaaa cttcctgttc tacacagtca gatgccagta aacaggctga cctttga 1077

<210> 559
 <211> 358
 <212> PRT
 <213> Homo sapiens

<400> 559
 Met Gly Asn Ala Ser Asn Asp Ser Gln Ser Glu Asp Cys Glu Thr Arg
 1 5 10 15
 Gln Trp Leu Pro Pro Gly Glu Ser Pro Ala Ile Ser Ser Val Met Phe
 20 25 30
 Ser Ala Gly Val Leu Gly Asn Leu Ile Ala Leu Ala Leu Ala Arg
 35 40 45
 Arg Trp Arg Gly Asp Val Gly Cys Ser Ala Gly Arg Arg Ser Ser Leu
 50 55 60
 Ser Leu Phe His Val Leu Val Thr Glu Leu Val Phe Thr Asp Leu Leu
 65 70 75 80
 Gly Thr Cys Leu Ile Ser Pro Val Val Leu Ala Ser Tyr Ala Arg Asn
 85 90 95
 Gln Thr Leu Val Ala Leu Ala Pro Glu Ser Arg Ala Cys Thr Tyr Phe
 100 105 110
 Ala Phe Ala Met Thr Phe Phe Ser Leu Ala Thr Met Leu Met Leu Phe
 115 120 125

145					150					155					160	
Ser	Arg	Leu	Gln	Tyr	Pro	Asp	Thr	Trp	Cys	Phe	Ile	Asp	Trp	Thr	Thr	
				165					170					175		
Asn	Val	Thr	Ala	His	Ala	Ala	Tyr	Ser	Tyr	Met	Tyr	Ala	Gly	Phe	Ser	
				180					185					190		
Ser	Phe	Leu	Ile	Leu	Ala	Thr	Val	Leu	Cys	Asn	Val	Leu	Val	Cys	Gly	
				195					200					205		
Ala	Leu	Leu	Arg	Met	His	Arg	Gln	Phe	Met	Arg	Arg	Thr	Ser	Leu	Gly	
				210					215					220		
Thr	Glu	Gln	His	His	Ala	Ala	Ala	Ala	Ala	Ser	Val	Ala	Ser	Arg	Gly	
225					230					235					240	
His	Pro	Ala	Ala	Ser	Pro	Ala	Leu	Pro	Arg	Leu	Ser	Asp	Phe	Arg	Arg	
				245					250					255		
Arg	Arg	Ser	Phe	Arg	Arg	Ile	Ala	Gly	Ala	Glu	Ile	Gln	Met	Lys	Ile	
				260					265					270		
Leu	Leu	Ile	Ala	Thr	Ser	Leu	Val	Val	Leu	Ile	Cys	Ser	Ile	Pro	Leu	
				275					280					285		
Val	Val	Arg	Val	Phe	Val	Asn	Gln	Leu	Tyr	Gln	Pro	Ser	Leu	Glu	Arg	
				290					295					300		
Glu	Val	Ser	Lys	Asn	Pro	Asp	Leu	Gln	Ala	Ile	Arg	Ile	Ala	Ser	Val	
305					310					315					320	
Asn	Pro	Ile	Leu	Asp	Pro	Trp	Ile	Tyr	Ile	Leu	Leu	Arg	Lys	Thr	Val	
				325					330					335		
Leu	Ser	Lys	Ala	Ile	Glu	Lys	Ile	Lys	Cys	Leu	Phe	Cys	Arg	Ile	Gly	
				340					345					350		
Gly	Ser	Arg	Arg	Glu	Arg	Ser	Gly	Gln	His	Cys	Ser	Asp	Ser	Gln	Arg	
				355					360					365		
Thr	Ser	Ser	Ala	Met	Ser	Gly	His	Ser	Arg	Ser	Phe	Ile	Ser	Arg	Glu	
				370					375					380		
Leu	Lys	Glu	Ile	Ser	Ser	Thr	Ser	Gln	Thr	Leu	Leu	Pro	Asp	Leu	Ser	
385					390					395					400	
Leu	Pro	Asp	Leu	Ser	Glu	Asn	Gly	Leu	Gly	Gly	Arg	Asn	Leu	Leu	Pro	
				405					410					415		
Gly	Val	Pro	Gly	Met	Gly	Leu	Ala	Gln	Glu	Asp	Thr	Thr	Ser	Leu	Arg	
				420					425					430		
Thr	Leu	Arg	Ile	Ser	Glu	Thr	Ser	Asp	Ser	Ser	Gln	Gly	Gln	Asp	Ser	
				435					440					445		
Glu	Ser	Val	Leu	Leu	Val	Asp	Glu	Ala	Gly	Gly	Ser	Gly	Arg	Ala	Gly	

450

455

460

Pro Ala Pro Lys Gly Ser Ser Leu Gln Val Thr Phe Pro Ser Glu Thr
 465 470 475 480

Leu Asn Leu Ser Glu Lys Cys Ile
 485

<210> 562

<211> 1782

<212> DNA

<213> Homo sapiens

<400> 562

atggggaccg cccggatcgc acccggcctg gcgctcctgc tctgctgccc cgtgctcagc 60
 tccgcgtacg cgctgggtgga tgcagatgac gtcagtacta aagaggaaca gatcttcctg 120
 ctgcaccgtg ctcaggccca gtgcgaaaaa cggctcaagg aggtcctgca gaggccagcc 180
 agcataatgg aatcagacaa gggatggaca tctgctgcca catcaggga gcccaggaaa 240
 gataaggcat ctgggaagct ctaccctgag tctgaggagg acaaggaggc acccactggc 300
 agcaggtacc gagggcgccc ctgtctgccc gaatgggacc acatcctgtg ctggccgctg 360
 ggggcaccag gtgaggtggt ggctgtgccc tgtccggact acatttatga cttcaatcac 420
 aaaggccatg cctaccgacg ctgtgaccgc aatggcagct gggagctggt gcctgggcac 480
 aacaggacgt gggccaacta cagcgagtgt gtcaaatttc tcaccaatga gactcgtgaa 540
 cgggaggtgt ttgaccgcct gggcatgatt tacaccgtgg gctactccgt gtccctggcg 600
 tccctcaccg tagctgtgct catcctggcc tactttaggc ggctgcaactg cacgcgcaac 660
 tacatccaca tgcacctgtt cctgtccttc atgctgocgc cctgagcat cttcgtcaag 720
 gacgctgtgc tctactctgg cgccacgctt gatgaggctg agcgccctac cgaggaggag 780
 ctgcgcgcca tcgcccaggc gccccgcgcg cctgccaccg ccgctgccgg ctacgcgggc 840
 tgcaggggtg ctgtgacctt cttcctttac ttctggcca ccaactacta ctggattctg 900
 gtggaggggc tgtacctgca cagcctcatc ttcatggcct tcttctcaga gaagaagtac 960
 ctgtggggct tcacagtctt cggctggggt ctgcccgctg tcttcgtggc tgtgtgggtc 1020
 agtgtcagag ctaccctggc caacaccggg tgctgggact tgagctccgg gaacaaaaag 1080
 tggatcatcc aggtgcccac cctggcctcc attgtgtctc acttcatcct cttcatcaat 1140
 atcgtccggg tgctcgccac caagctgagg gagaccaacg ccggccgggtg tgacacacgg 1200
 cagcagtacc ggaagctgct caaatccccg ctgggtgtct tgcccctctt tggcgtccac 1260
 tacattgtct tcatggccac accatacacc gaggtctcag ggacgctctg gcaagtccag 1320
 atgcactatg agatgctctt caactccttc cagggatttt ttgtcgcaat catatactgt 1380
 ttctgcaatg gcgaggtaca agctgagatc aagaaatctt ggagccgctg gacactggca 1440
 ctggacttca agcgaaaggc acgcagcggg agcagcagct atagctacgg ccccatgggtg 1500
 tcccacacaa gtgtgaacaa tgtcgggccc cgtgtgggac tcggcctgcc cctcagcccc 1560
 cgcctactgc ccaactgccac caccacggc caccctcagc tgccctggcca tgccaaggca 1620
 gggacccccag ccctggagac cctcgagacc acaccacctg ccattggctgc tcccaaggac 1680
 gatgggttcc tcaacggctc ctgctcaggc ctggacgagg aggcctctgg gcctgagcgg 1740
 ccacctgccc tgctacagga agagtgggag acagtcattg ga 1782

<210> 563

<211> 593

<212> PRT

<213> Homo sapiens

<400> 563

Met Gly Thr Ala Arg Ile Ala Pro Gly Leu Ala Leu Leu Leu Cys Cys
 1 5 10 15

Pro Val Leu Ser Ser Ala Tyr Ala Leu Val Asp Ala Asp Asp Val Met

20						25						30					
Thr	Lys	Glu	Glu	Gln	Ile	Phe	Leu	Leu	His	Arg	Ala	Gln	Ala	Gln	Cys		
		35				40						45					
Glu	Lys	Arg	Leu	Lys	Glu	Val	Leu	Gln	Arg	Pro	Ala	Ser	Ile	Met	Glu		
		50				55				60							
Ser	Asp	Lys	Gly	Trp	Thr	Ser	Ala	Ser	Thr	Ser	Gly	Lys	Pro	Arg	Lys		
65				70						75				80			
Asp	Lys	Ala	Ser	Gly	Lys	Leu	Tyr	Pro	Glu	Ser	Glu	Glu	Asp	Lys	Glu		
				85				90						95			
Ala	Pro	Thr	Gly	Ser	Arg	Tyr	Arg	Gly	Arg	Pro	Cys	Leu	Pro	Glu	Trp		
		100						105				110					
Asp	His	Ile	Leu	Cys	Trp	Pro	Leu	Gly	Ala	Pro	Gly	Glu	Val	Val	Ala		
		115				120						125					
Val	Pro	Cys	Pro	Asp	Tyr	Ile	Tyr	Asp	Phe	Asn	His	Lys	Gly	His	Ala		
130						135				140							
Tyr	Arg	Arg	Cys	Asp	Arg	Asn	Gly	Ser	Trp	Glu	Leu	Val	Pro	Gly	His		
145				150						155				160			
Asn	Arg	Thr	Trp	Ala	Asn	Tyr	Ser	Glu	Cys	Val	Lys	Phe	Leu	Thr	Asn		
				165				170						175			
Glu	Thr	Arg	Glu	Arg	Glu	Val	Phe	Asp	Arg	Leu	Gly	Met	Ile	Tyr	Thr		
		180						185				190					
Val	Gly	Tyr	Ser	Val	Ser	Leu	Ala	Ser	Leu	Thr	Val	Ala	Val	Leu	Ile		
		195				200						205					
Leu	Ala	Tyr	Phe	Arg	Arg	Leu	His	Cys	Thr	Arg	Asn	Tyr	Ile	His	Met		
210						215				220							
His	Leu	Phe	Leu	Ser	Phe	Met	Leu	Arg	Ala	Val	Ser	Ile	Phe	Val	Lys		
225				230						235				240			
Asp	Ala	Val	Leu	Tyr	Ser	Gly	Ala	Thr	Leu	Asp	Glu	Ala	Glu	Arg	Leu		
				245				250						255			
Thr	Glu	Glu	Glu	Leu	Arg	Ala	Ile	Ala	Gln	Ala	Pro	Pro	Pro	Pro	Ala		
		260						265				270					
Thr	Ala	Ala	Ala	Gly	Tyr	Ala	Gly	Cys	Arg	Val	Ala	Val	Thr	Phe	Phe		
		275				280						285					
Leu	Tyr	Phe	Leu	Ala	Thr	Asn	Tyr	Tyr	Trp	Ile	Leu	Val	Glu	Gly	Leu		
290						295				300							
Tyr	Leu	His	Ser	Leu	Ile	Phe	Met	Ala	Phe	Phe	Ser	Glu	Lys	Lys	Tyr		
305				310						315				320			
Leu	Trp	Gly	Phe	Thr	Val	Phe	Gly	Trp	Gly	Leu	Pro	Ala	Val	Phe	Val		

<213> Homo sapiens

<400> 564

```

atggccgggc tgggggcgtc gctccacgtc tgggggttggc taatgctcgg cagctgcctc 60
ctggccagag cccagctgga ttctgatggc accattacta tagaggagca gattgtcctt 120
gtgctgaaag cgaaagtaca atgtgaactc aacatcacag ctcaactcca ggagggagaa 180
ggtaattgtt tccctgaatg ggatggactc atttgttggc ccagaggaac agtggggaaa 240
atatcggtcg ttccatgccc tccttatatt tatgacttca accataaagg agttgctttc 300
cgacactgta accccaatgg aacatgggat tttatgcaca gcttaaataa aacatggggc 360
aattattcag actgccttcg ctttctgcag ccagatatca gcataggaaa gcaagaattc 420
tttgaacgcc tctatgtaat gtataccgtt ggctactcca tctcttttgg ttccttggct 480
gtggctattc tcatcattgg ttacttcaga cgattgcatt gcactaggaa ctatatccac 540
atgcacttat ttgtgtcttt catgctgaga gctacaagca tctttgtcaa agacagagta 600
gtccatgctc acataggagt aaaggagctg gaggccctaa taatgcagga tgaccacaa 660
aattccattg aggcaacttc tgtggacaaa tcacaatata tcgggtgcaa gattgctgtt 720
gtgatgttta tttacttcct ggctacaaat tattattgga tcctgggtgga aggtctctac 780
ctgcataatc tcatctttgt ggctttcttt tcggacacca aatacctgtg gggttctatc 840
ttgataggct ggggggtttcc agcagcattt gttgcagcat gggctgtggc acgagcaact 900
ctggctgatg cgaggtgctg ggaacttagt gctggagaca tcaagtggat ttatcaagca 960
ccgatcttag cagctattgg gctgaatttt attctgtttc tgaatacggg tagagttcta 1020
gctacaaaaa tctgggagac caatgcagtt gggcatgaca caaggaagca atacaggaaa 1080
ctggccaaat cgccactggt cctggctcta gtctttggag tgcattacat cgtgttcgta 1140
tgctgcctc actccttcac tgggctcggg tgggagatcc gcatgcactg tgagctcttc 1200
ttcaactcct ttcagggttt ctttgtgtct atcatctact gctactgcaa tggagagggt 1260
caggcagagg tgaagaagat gtggagtcgg tggaaatctc ccgtggactg gaaaaggaca 1320
ccgccatgtg gcagccgcag atgcggtcga gtgctcacca ccgtgacgca cagcaccagc 1380
agccagtcac aggtggcggc cagcacacgc atggtgctta tctctggcaa agctgccaag 1440
atcgccagca gacagcctga cagccacatc actttacctg gctatgtctg gagtaactca 1500
gagcaggact gcctgccaca ctctttccac gaggagacca aggaagatag tgggaggcag 1560
ggagatgata ttctaattga gaagccttcc aggcctatgg aatctaaccg agacactgaa 1620
ggatgccaag gagaaactga ggaatgtctc tga                                     1653

```

<210> 565

<211> 550

<212> PRT

<213> Homo sapiens

<400> 565

```

Met Ala Gly Leu Gly Ala Ser Leu His Val Trp Gly Trp Leu Met Leu
  1              5              10              15

Gly Ser Cys Leu Leu Ala Arg Ala Gln Leu Asp Ser Asp Gly Thr Ile
          20              25              30

Thr Ile Glu Glu Gln Ile Val Leu Val Leu Lys Ala Lys Val Gln Cys
          35              40              45

Glu Leu Asn Ile Thr Ala Gln Leu Gln Glu Gly Glu Gly Asn Cys Phe
          50              55              60

Pro Glu Trp Asp Gly Leu Ile Cys Trp Pro Arg Gly Thr Val Gly Lys
          65              70              75              80

Ile Ser Ala Val Pro Cys Pro Pro Tyr Ile Tyr Asp Phe Asn His Lys
          85              90              95

```

Gly	Val	Ala	Phe	Arg	His	Cys	Asn	Pro	Asn	Gly	Thr	Trp	Asp	Phe	Met	100	105	110
His	Ser	Leu	Asn	Lys	Thr	Trp	Ala	Asn	Tyr	Ser	Asp	Cys	Leu	Arg	Phe	115	120	125
Leu	Gln	Pro	Asp	Ile	Ser	Ile	Gly	Lys	Gln	Glu	Phe	Phe	Glu	Arg	Leu	130	135	140
Tyr	Val	Met	Tyr	Thr	Val	Gly	Tyr	Ser	Ile	Ser	Phe	Gly	Ser	Leu	Ala	145	150	155
Val	Ala	Ile	Leu	Ile	Ile	Gly	Tyr	Phe	Arg	Arg	Leu	His	Cys	Thr	Arg	165	170	175
Asn	Tyr	Ile	His	Met	His	Leu	Phe	Val	Ser	Phe	Met	Leu	Arg	Ala	Thr	180	185	190
Ser	Ile	Phe	Val	Lys	Asp	Arg	Val	Val	His	Ala	His	Ile	Gly	Val	Lys	195	200	205
Glu	Leu	Glu	Ser	Leu	Ile	Met	Gln	Asp	Asp	Pro	Gln	Asn	Ser	Ile	Glu	210	215	220
Ala	Thr	Ser	Val	Asp	Lys	Ser	Gln	Tyr	Ile	Gly	Cys	Lys	Ile	Ala	Val	225	230	235
Val	Met	Phe	Ile	Tyr	Phe	Leu	Ala	Thr	Asn	Tyr	Tyr	Trp	Ile	Leu	Val	245	250	255
Glu	Gly	Leu	Tyr	Leu	His	Asn	Leu	Ile	Phe	Val	Ala	Phe	Phe	Ser	Asp	260	265	270
Thr	Lys	Tyr	Leu	Trp	Gly	Phe	Ile	Leu	Ile	Gly	Trp	Gly	Phe	Pro	Ala	275	280	285
Ala	Phe	Val	Ala	Ala	Trp	Ala	Val	Ala	Arg	Ala	Thr	Leu	Ala	Asp	Ala	290	295	300
Arg	Cys	Trp	Glu	Leu	Ser	Ala	Gly	Asp	Ile	Lys	Trp	Ile	Tyr	Gln	Ala	305	310	315
Pro	Ile	Leu	Ala	Ala	Ile	Gly	Leu	Asn	Phe	Ile	Leu	Phe	Leu	Asn	Thr	325	330	335
Val	Arg	Val	Leu	Ala	Thr	Lys	Ile	Trp	Glu	Thr	Asn	Ala	Val	Gly	His	340	345	350
Asp	Thr	Arg	Lys	Gln	Tyr	Arg	Lys	Leu	Ala	Lys	Ser	Pro	Leu	Val	Leu	355	360	365
Val	Leu	Val	Phe	Gly	Val	His	Tyr	Ile	Val	Phe	Val	Cys	Leu	Pro	His	370	375	380
Ser	Phe	Thr	Gly	Leu	Gly	Trp	Glu	Ile	Arg	Met	His	Cys	Glu	Leu	Phe	385	390	395

Phe Asn Ser Phe Gln Gly Phe Phe Val Ser Ile Ile Tyr Cys Tyr Cys
405 410 415

Asn Gly Glu Val Gln Ala Glu Val Lys Lys Met Trp Ser Arg Trp Asn
420 425 430

Leu Ser Val Asp Trp Lys Arg Thr Pro Pro Cys Gly Ser Arg Arg Cys
435 440 445

Gly Ser Val Leu Thr Thr Val Thr His Ser Thr Ser Ser Gln Ser Gln
450 455 460

Val Ala Ala Ser Thr Arg Met Val Leu Ile Ser Gly Lys Ala Ala Lys
465 470 475 480

Ile Ala Ser Arg Gln Pro Asp Ser His Ile Thr Leu Pro Gly Tyr Val
485 490 495

Trp Ser Asn Ser Glu Gln Asp Cys Leu Pro His Ser Phe His Glu Glu
500 505 510

Thr Lys Glu Asp Ser Gly Arg Gln Gly Asp Asp Ile Leu Met Glu Lys
515 520 525

Pro Ser Arg Pro Met Glu Ser Asn Pro Asp Thr Glu Gly Cys Gln Gly
530 535 540

Glu Thr Glu Asp Val Leu
545 550

<210> 566

<211> 1323

<212> DNA

<213> Homo sapiens

<400> 566

```

atgcgctccc acctgtcgcc gccgctgcag cagctactac tgccggtgct gctcgccctgc 60
gccgcgcact cgactggagc ccttccccga ctatgtgacg tgctacaagt gctgtgggaa 120
gagcaagacc agtgccctgca ggaactctcc agagagcaga caggagacct gggcacggag 180
cagccagtgc caggtttgtga ggggatgtgg gacaacataa gctgctggcc ctcttctgtg 240
ccggggccgga tgggtggagg ggaatgcccg agattcctcc ggatgctcac cagcagaaat 300
ggttccttgt tccgaaactg cacacaggat ggctggtcag aaaccttccc caggcctaata 360
ctggcctgtg gcgttaatgt gaacgactct tccaacgaga agcggcactc ctacctgctg 420
aagctgaaaag tcatgtacac cgtgggctac agctcctccc tggtcatgct cctgggtcgcc 480
cttggcatcc tctgtgcttt ccggaggctc cactgcactc gcaactacat ccacatgcac 540
ctgttcgtgt ccttcatact tcgtgccctg tccaacttca tcaaggacgc cgtgctcttc 600
tcttcagatg atgtcaccta ctgcgatccg cacagggcgg gctgcaagct ggtcatgggtg 660
ctgttccagt actgcatcat ggccaactac tcttggtgc tgggtggaagg cctctacctt 720
cacacactcc tcgccatctc ctctctctct gaaagaaagt acctccaggg atttgtggca 780
ttcggtatgg gttctccagc catttttgtt gctttgtggg ctattgccag acactttctg 840
gaagatgttg ggtgctggga catcaatgcc aacgcattca tctggtggat cattcgtggt 900
cctgtgatcc tctccatcct gattaatttc atccttttca taaacattct aagaatcctg 960
atgagaaaac ttagaaccca agaaacaaga ggaaatgaag tcagccatta taagcgctg 1020
gccagggtccc ctctcctgct gatccccctc tttggcatcc actacatcgt cttcgccttc 1080
tccccagagg acgctatgga gatccagctg ttttttgaac tagcccttgg ctcatccag 1140
ggactggtgg tggccgtcct ctactgcttc ctcaatgggg aggtgcagct ggaggttcag 1200

```

aagaagtggc agcaatggca cctccgtgag ttcccactgc accccgtggc ctccttcagc 1260
 aacagcacca aggccagcca cttggagcag agccagggca cctgcaggac cagcatcatc 1320
 tga 1323

<210> 567
 <211> 440
 <212> PRT
 <213> Homo sapiens

<400> 567
 Met Arg Pro His Leu Ser Pro Pro Leu Gln Gln Leu Leu Leu Pro Val
 1 5 10 15
 Leu Leu Ala Cys Ala Ala His Ser Thr Gly Ala Leu Pro Arg Leu Cys
 20 25 30
 Asp Val Leu Gln Val Leu Trp Glu Glu Gln Asp Gln Cys Leu Gln Glu
 35 40 45
 Leu Ser Arg Glu Gln Thr Gly Asp Leu Gly Thr Glu Gln Pro Val Pro
 50 55 60
 Gly Cys Glu Gly Met Trp Asp Asn Ile Ser Cys Trp Pro Ser Ser Val
 65 70 75 80
 Pro Gly Arg Met Val Glu Val Glu Cys Pro Arg Phe Leu Arg Met Leu
 85 90 95
 Thr Ser Arg Asn Gly Ser Leu Phe Arg Asn Cys Thr Gln Asp Gly Trp
 100 105 110
 Ser Glu Thr Phe Pro Arg Pro Asn Leu Ala Cys Gly Val Asn Val Asn
 115 120 125
 Asp Ser Ser Asn Glu Lys Arg His Ser Tyr Leu Leu Lys Leu Lys Val
 130 135 140
 Met Tyr Thr Val Gly Tyr Ser Ser Ser Leu Val Met Leu Leu Val Ala
 145 150 155 160
 Leu Gly Ile Leu Cys Ala Phe Arg Arg Leu His Cys Thr Arg Asn Tyr
 165 170 175
 Ile His Met His Leu Phe Val Ser Phe Ile Leu Arg Ala Leu Ser Asn
 180 185 190
 Phe Ile Lys Asp Ala Val Leu Phe Ser Ser Asp Asp Val Thr Tyr Cys
 195 200 205
 Asp Pro His Arg Ala Gly Cys Lys Leu Val Met Val Leu Phe Gln Tyr
 210 215 220
 Cys Ile Met Ala Asn Tyr Ser Trp Leu Leu Val Glu Gly Leu Tyr Leu
 225 230 235 240
 His Thr Leu Leu Ala Ile Ser Phe Phe Ser Glu Arg Lys Tyr Leu Gln


```

ctgtgctacg tgctcatcat tgctaagatg cgcattggtg ccctcaaggc cggctggcag 780
cagcgcaagc gctcggagcg caagatcaaa ttaatggtga tgatggtggt gatggtgttt 840
gtcatctgct ggatgccttt ctacgtggtg cagctgggta acgtgtttgc tgagcaggac 900
gacgccacgg tgagtcagct gtcggtcatc ctcggtatg ccaacagctg cgccaacccc 960
atcctctatg gctttctctc agacaacttc aagcgctctt tccaacgcat cctatgcctc 1020
agctggatgg acaacgccgc ggaggagccg gttgactatt acgccaccgc gctcaagagc 1080
cgtgcctaca gtgtggaaga cttccaacct gagaacctgg agtcggcgcg cgtcttccgt 1140
aatggcacct gcacgtcccg gatcacgacg ctctga 1176

```

<210> 569
 <211> 391
 <212> PRT
 <213> Homo sapiens

```

<400> 569
Met Phe Pro Asn Gly Thr Ala Ser Ser Pro Ser Ser Ser Pro Ser Pro
  1             5             10             15

Ser Pro Gly Ser Cys Gly Glu Gly Gly Ser Arg Gly Pro Gly Ala
      20             25             30

Gly Ala Ala Asp Gly Met Glu Glu Pro Gly Arg Asn Ala Ser Gln Asn
      35             40             45

Gly Thr Leu Ser Glu Gly Gln Gly Ser Ala Ile Leu Ile Ser Phe Ile
      50             55             60

Tyr Ser Val Val Cys Leu Val Gly Leu Cys Gly Asn Ser Met Val Ile
      65             70             75             80

Tyr Val Ile Leu Arg Tyr Ala Lys Met Lys Thr Ala Thr Asn Ile Tyr
      85             90             95

Ile Leu Asn Leu Ala Ile Ala Asp Glu Leu Leu Met Leu Ser Val Pro
      100            105            110

Phe Leu Val Thr Ser Thr Leu Leu Arg His Trp Pro Phe Gly Ala Leu
      115            120            125

Leu Cys Arg Leu Val Leu Ser Val Asp Ala Val Asn Met Phe Thr Ser
      130            135            140

Ile Tyr Cys Leu Thr Val Leu Ser Val Asp Arg Tyr Val Ala Val Val
      145            150            155            160

His Pro Ile Lys Ala Ala Arg Tyr Arg Arg Pro Thr Val Ala Lys Val
      165            170            175

Val Asn Leu Gly Val Trp Val Leu Ser Leu Leu Val Ile Leu Pro Ile
      180            185            190

Val Val Phe Ser Arg Thr Ala Ala Asn Ser Asp Gly Thr Val Ala Cys
      195            200            205

Asn Met Leu Met Pro Glu Pro Ala Gln Arg Trp Leu Val Gly Phe Val
      210            215            220

```

Leu Tyr Thr Phe Leu Met Gly Phe Leu Leu Pro Val Gly Ala Ile Cys
 225 230 235 240

Leu Cys Tyr Val Leu Ile Ile Ala Lys Met Arg Met Val Ala Leu Lys
 245 250 255

Ala Gly Trp Gln Gln Arg Lys Arg Ser Glu Arg Lys Ile Lys Leu Met
 260 265 270

Val Met Met Val Val Met Val Phe Val Ile Cys Trp Met Pro Phe Tyr
 275 280 285

Val Val Gln Leu Val Asn Val Phe Ala Glu Gln Asp Asp Ala Thr Val
 290 295 300

Ser Gln Leu Ser Val Ile Leu Gly Tyr Ala Asn Ser Cys Ala Asn Pro
 305 310 315 320

Ile Leu Tyr Gly Phe Leu Ser Asp Asn Phe Lys Arg Ser Phe Gln Arg
 325 330 335

Ile Leu Cys Leu Ser Trp Met Asp Asn Ala Ala Glu Glu Pro Val Asp
 340 345 350

Tyr Tyr Ala Thr Ala Leu Lys Ser Arg Ala Tyr Ser Val Glu Asp Phe
 355 360 365

Gln Pro Glu Asn Leu Glu Ser Gly Gly Val Phe Arg Asn Gly Thr Cys
 370 375 380

Thr Ser Arg Ile Thr Thr Leu
 385 390

<210> 570
 <211> 1110
 <212> DNA
 <213> Homo sapiens

<400> 570
 atggacatgg cggatgagcc actcaatgga agccacacat ggctatccat tccatttgac 60
 ctcaatggct ctgtggtgtc aaccaacacc tcaaaccaga cagagccgta ctatgacctg 120
 acaagcaatg cagtcctcac attcatctat tttgtggtct gcatcattgg gttgtgtggc 180
 aacacacttg tcatttatgt catcctccgc tatgccaaga tgaagaccat caccaacatt 240
 tacatcctca acctggccat cgcagatgag ctcttcatgc tgggtctgcc tttcttggtc 300
 atgcaggtgg ctctgggtcca ctggcccttt ggcaaggcca ttgcccgggt ggtcatgact 360
 gtggatggca tcaatcagtt caccagcatc ttctgcctga cagtcatgag catcgaccga 420
 tacctggctg tgggtccacc catcaagtgc gccaaagtga ggagaccccg gacggccaag 480
 atgatcacca tggctgtgtg gggagtctct ctgctggtca tcttgcccat catgatatat 540
 gctgggctcc ggagcaacca gtgggggaga agcagctgca ccatcaactg gccaggtgaa 600
 tctggggctt ggtacacagg gttcatcatc tacactttca ttctgggggt cctggtacct 660
 ctccaccatca tctgtctttg ctacctgttc attatcatca aggtgaagtc ctctggaatc 720
 cgagtgggct cctctaagag gaagaagtct gagaagaagg tcaaacgaat ggtgtccatc 780
 gtggtggctg tcttcatctt ctgctggctt cccttctaca tattcaacgt ttcttccgtc 840
 tccatggcca tcagcccccac cccagccctt aaaggcatgt ttgactttgt ggtgggtcctc 900
 acctatgcta acagctgtgc caaccctatc ctatatgcct tcttgtctga caacttcaag 960

aagagcttcc agaatgtcct ctgcttggtc aaggtagcg gcacagatga tggggagcgg 1020
 agtgacagta agcaggacaa atcccggtg aatgagacca cggagacca gaggaccctc 1080
 ctcaatggag acctccaaac cagtatctga 1110

<210> 571
 <211> 369
 <212> PRT
 <213> Homo sapiens

<400> 571
 Met Asp Met Ala Asp Glu Pro Leu Asn Gly Ser His Thr Trp Leu Ser
 1 5 10 15
 Ile Pro Phe Asp Leu Asn Gly Ser Val Val Ser Thr Asn Thr Ser Asn
 20 25 30
 Gln Thr Glu Pro Tyr Tyr Asp Leu Thr Ser Asn Ala Val Leu Thr Phe
 35 40 45
 Ile Tyr Phe Val Val Cys Ile Ile Gly Leu Cys Gly Asn Thr Leu Val
 50 55 60
 Ile Tyr Val Ile Leu Arg Tyr Ala Lys Met Lys Thr Ile Thr Asn Ile
 65 70 75 80
 Tyr Ile Leu Asn Leu Ala Ile Ala Asp Glu Leu Phe Met Leu Gly Leu
 85 90 95
 Pro Phe Leu Ala Met Gln Val Ala Leu Val His Trp Pro Phe Gly Lys
 100 105 110
 Ala Ile Cys Arg Val Val Met Thr Val Asp Gly Ile Asn Gln Phe Thr
 115 120 125
 Ser Ile Phe Cys Leu Thr Val Met Ser Ile Asp Arg Tyr Leu Ala Val
 130 135 140
 Val His Pro Ile Lys Ser Ala Lys Trp Arg Arg Pro Arg Thr Ala Lys
 145 150 155 160
 Met Ile Thr Met Ala Val Trp Gly Val Ser Leu Leu Val Ile Leu Pro
 165 170 175
 Ile Met Ile Tyr Ala Gly Leu Arg Ser Asn Gln Trp Gly Arg Ser Ser
 180 185 190
 Cys Thr Ile Asn Trp Pro Gly Glu Ser Gly Ala Trp Tyr Thr Gly Phe
 195 200 205
 Ile Ile Tyr Thr Phe Ile Leu Gly Phe Leu Val Pro Leu Thr Ile Ile
 210 215 220
 Cys Leu Cys Tyr Leu Phe Ile Ile Ile Lys Val Lys Ser Ser Gly Ile
 225 230 235 240
 Arg Val Gly Ser Ser Lys Arg Lys Lys Ser Glu Lys Lys Val Lys Arg

245 250 255

Met Val Ser Ile Val Val Ala Val Phe Ile Phe Cys Trp Leu Pro Phe
260 265 270

Tyr Ile Phe Asn Val Ser Ser Val Ser Met Ala Ile Ser Pro Thr Pro
275 280 285

Ala Leu Lys Gly Met Phe Asp Phe Val Val Val Leu Thr Tyr Ala Asn
290 295 300

Ser Cys Ala Asn Pro Ile Leu Tyr Ala Phe Leu Ser Asp Asn Phe Lys
305 310 315 320

Lys Ser Phe Gln Asn Val Leu Cys Leu Val Lys Val Ser Gly Thr Asp
325 330 335

Asp Gly Glu Arg Ser Asp Ser Lys Gln Asp Lys Ser Arg Leu Asn Glu
340 345 350

Thr Thr Glu Thr Gln Arg Thr Leu Leu Asn Gly Asp Leu Gln Thr Ser
355 360 365

Ile

<210> 572
<211> 1257
<212> DNA
<213> Homo sapiens

<400> 572

atggacatgc ttcatccatc atcgggtgtcc acgacctcag aacctgagaa tgccctcctcg 60
gcctggcccc cagatgccac cctgggcaac gtgtcggcgg gcccaagccc ggcagggtcg 120
gcggtcagtg gcgtttctgat ccccttggtc tacctggtgg tgtgcgtggt gggcctgctg 180
ggtaactcgc tggatcatcta tgtggtcctg cggcacacgg ccagcccttc agtcaccaac 240
gtctacatcc tcaacctggc gctggccgac gagctcttca tgctggggct gcccttcctg 300
gccgcccaga acgacctgtc ctactggccc ttcggtctcc tcatgtgccg cctgggtcatg 360
gcggtggatg gcatcaacca gttcaccagc atattctgcc tgactgtcat gagcgtggac 420
cgctaacctg ccgtggtaca tcccaccgcg tcggcccgtg gcgcacagc tccggtggcc 480
cgcacgggtc gcgcggctgt gtgggtggcc tcagccgtgg tgggtgctgcc cgtggtggtc 540
ttctcgggag tgccccgcgg catgagcacc tgccacatgc agtggcccga gccggcggcg 600
gcctggcgag ccggcttcat catctacacg gccgcactgg gcttcttcgg gccgctgctg 660
gtcatctgcc tctgtacct gctcatcgtg gtgaaggtgc gctcagctgg gcgcccgggtg 720
tgggcaccct cgtgccagcg gcgcccgcgc tccgaacgca gggtaagcg catggtggtg 780
gccgtggtgg cgtctcttct gctctgctgg atgcccttct acgtgctcaa catcgtcaac 840
gtggtgtgcc cactgcccga ggagcctgcc ttctttgggc tctacttcct ggtggtggcg 900
ctgccctatg ccaacagctg tgccaacccc atcctttatg gcttctctc ctaccgcttc 960
aagcagggtt tccgcagggt cctgctgctg cctcccgcgc gtgtgcgcag ccaggagccc 1020
actgtggggc ccccgagaaa gactgaggag gaggatgagg aggaggagga tggggaggag 1080
agcaggaggg ggggcaaggg gaaggagatg aacggccggg tcagccagat cacgcagcct 1140
ggcaccagcg ggcaggagcg gccgcccagc agagtggcca gcaaggagca gcagctccta 1200
ccccaagagg cttccactgg ggagaagtcc agcacgatgc gcatcagcta cctgtag 1257

<210> 573

<211> 418
 <212> PRT
 <213> Homo sapiens

<400> 573

```

Met Asp Met Leu His Pro Ser Ser Val Ser Thr Thr Ser Glu Pro Glu
  1              5              10              15

Asn Ala Ser Ser Ala Trp Pro Pro Asp Ala Thr Leu Gly Asn Val Ser
      20              25              30

Ala Gly Pro Ser Pro Ala Gly Leu Ala Val Ser Gly Val Leu Ile Pro
      35              40              45

Leu Val Tyr Leu Val Val Cys Val Val Gly Leu Leu Gly Asn Ser Leu
      50              55              60

Val Ile Tyr Val Val Leu Arg His Thr Ala Ser Pro Ser Val Thr Asn
      65              70              75              80

Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Glu Leu Phe Met Leu Gly
      85              90              95

Leu Pro Phe Leu Ala Ala Gln Asn Ala Leu Ser Tyr Trp Pro Phe Gly
      100             105             110

Ser Leu Met Cys Arg Leu Val Met Ala Val Asp Gly Ile Asn Gln Phe
      115             120             125

Thr Ser Ile Phe Cys Leu Thr Val Met Ser Val Asp Arg Tyr Leu Ala
      130             135             140

Val Val His Pro Thr Arg Ser Ala Arg Trp Arg Thr Ala Pro Val Ala
      145             150             155             160

Arg Thr Val Ser Ala Ala Val Trp Val Ala Ser Ala Val Val Val Leu
      165             170             175

Pro Val Val Val Phe Ser Gly Val Pro Arg Gly Met Ser Thr Cys His
      180             185             190

Met Gln Trp Pro Glu Pro Ala Ala Ala Trp Arg Ala Gly Phe Ile Ile
      195             200             205

Tyr Thr Ala Ala Leu Gly Phe Phe Gly Pro Leu Leu Val Ile Cys Leu
      210             215             220

Cys Tyr Leu Leu Ile Val Val Lys Val Arg Ser Ala Gly Arg Arg Val
      225             230             235             240

Trp Ala Pro Ser Cys Gln Arg Arg Arg Arg Ser Glu Arg Arg Val Lys
      245             250             255

Arg Met Val Val Ala Val Val Ala Leu Phe Val Leu Cys Trp Met Pro
      260             265             270

Phe Tyr Val Leu Asn Ile Val Asn Val Val Cys Pro Leu Pro Glu Glu
  
```

275 280 285

Pro Ala Phe Phe Gly Leu Tyr Phe Leu Val Val Ala Leu Pro Tyr Ala
290 295 300

Asn Ser Cys Ala Asn Pro Ile Leu Tyr Gly Phe Leu Ser Tyr Arg Phe
305 310 315 320

Lys Gln Gly Phe Arg Arg Val Leu Leu Arg Pro Ser Arg Arg Val Arg
325 330 335

Ser Gln Glu Pro Thr Val Gly Pro Pro Glu Lys Thr Glu Glu Glu Asp
340 345 350

Glu Glu Glu Glu Asp Gly Glu Glu Ser Arg Glu Gly Gly Lys Gly Lys
355 360 365

Glu Met Asn Gly Arg Val Ser Gln Ile Thr Gln Pro Gly Thr Ser Gly
370 375 380

Gln Glu Arg Pro Pro Ser Arg Val Ala Ser Lys Glu Gln Gln Leu Leu
385 390 395 400

Pro Gln Glu Ala Ser Thr Gly Glu Lys Ser Ser Thr Met Arg Ile Ser
405 410 415

Tyr Leu

<210> 574
<211> 1167
<212> DNA
<213> Homo sapiens

<400> 574

atgagcgccc cctcgacgct gccccccggg ggcgaggaag ggctggggac ggccctggccc 60
tctgcagcca atgccagtag cgctccggcg gaggcggagg aggcggtggc ggggcccggg 120
gacgcgcggg cggcgggcat ggtcgctatc cagtgcattc acgcgctggg gtgcctgggtg 180
gggctgggtg gcaacgccc ggtcatcttc gtgatccttc gctacgcca gatgaagacg 240
gctaccaaca tctacctgct caacctggcc gttagccgacg agctcttcat gctgagcgtg 300
cccttcgtgg cctcgtcggc cgccctgcgc cactggccct tcggctccgt gctgtgccgc 360
gcggtgctca gcgtcgacgg cctcaacatg ttcaccagcg tcttctgtct caccgtgctc 420
agcgtggacc gctacgtggc cgtggtgcac cctctgcgc cggcgacct cggcgggccc 480
agcgtggcca agctcatcaa cctgggcgtg tggctggcat ccctgttgg cactctcccc 540
atcgccatct tcgcagacac cagaccggct cgcggcgggc aggcggtggc ctgcaacctg 600
cagtggccac acccggcctg gtgggcagtc ttcgtggtct acactttcct gctgggcttc 660
ctgctgcccg tgctggccat tggcctgtgc tacctgctca tcgtgggcaa gatgcgcgcc 720
gtggccctgc gcgtggtg gcagcagcgc aggcgctcgg agaagaaaat caaaaggctg 780
gtgctgatgg tcgtggctgt ctttgtgtgc tgctggatgc ctttctacgt ggtgcagctg 840
ctgaacctcg tcgtgaccag ccttgatgcc accgtcaacc acgtgtccct taccctcagc 900
tatgccaaca gctgcgcca cctattctc tatggcttcc tctccgaaa cttccgccga 960
tccttccagc gggttctctg cctgcgctgc tgccctcctg aagggtgctg aggtgctgag 1020
gaggagcccc tggactacta tgccactgct ctcaagagca aagggtggggc aggtgcatg 1080
tgccccccac tcccctgcca gcaggaagcc ctgcaaccag aaccgggccg caagcgcacg 1140
ccctcacca ggaccaccac cttctga 1167

<210> 575
 <211> 388
 <212> PRT
 <213> Homo sapiens

<400> 575

```

Met Ser Ala Pro Ser Thr Leu Pro Pro Gly Gly Glu Glu Gly Leu Gly
  1              5              10              15

Thr Ala Trp Pro Ser Ala Ala Asn Ala Ser Ser Ala Pro Ala Glu Ala
      20              25              30

Glu Glu Ala Val Ala Gly Pro Gly Asp Ala Arg Ala Ala Gly Met Val
      35              40              45

Ala Ile Gln Cys Ile Tyr Ala Leu Val Cys Leu Val Gly Leu Val Gly
      50              55              60

Asn Ala Leu Val Ile Phe Val Ile Leu Arg Tyr Ala Lys Met Lys Thr
      65              70              75              80

Ala Thr Asn Ile Tyr Leu Leu Asn Leu Ala Val Ala Asp Glu Leu Phe
      85              90              95

Met Leu Ser Val Pro Phe Val Ala Ser Ser Ala Ala Leu Arg His Trp
      100             105             110

Pro Phe Gly Ser Val Leu Cys Arg Ala Val Leu Ser Val Asp Gly Leu
      115             120             125

Asn Met Phe Thr Ser Val Phe Cys Leu Thr Val Leu Ser Val Asp Arg
      130             135             140

Tyr Val Ala Val Val His Pro Leu Arg Ala Ala Thr Tyr Arg Arg Pro
      145             150             155             160

Ser Val Ala Lys Leu Ile Asn Leu Gly Val Trp Leu Ala Ser Leu Leu
      165             170             175

Val Thr Leu Pro Ile Ala Ile Phe Ala Asp Thr Arg Pro Ala Arg Gly
      180             185             190

Gly Gln Ala Val Ala Cys Asn Leu Gln Trp Pro His Pro Ala Trp Ser
      195             200             205

Ala Val Phe Val Val Tyr Thr Phe Leu Leu Gly Phe Leu Leu Pro Val
      210             215             220

Leu Ala Ile Gly Leu Cys Tyr Leu Leu Ile Val Gly Lys Met Arg Ala
      225             230             235             240

Val Ala Leu Arg Ala Gly Trp Gln Gln Arg Arg Arg Ser Glu Lys Lys
      245             250             255

Ile Lys Arg Leu Val Leu Met Val Val Val Val Phe Val Leu Cys Trp
      260             265             270

```


1000-5000-1000

<400> 577

Met	Glu	Pro	Leu	Phe	Pro	Ala	Ser	Thr	Pro	Ser	Trp	Asn	Ala	Ser	Ser
1				5					10					15	
Pro	Gly	Ala	Ala	Ser	Gly	Gly	Gly	Asp	Asn	Arg	Thr	Leu	Val	Gly	Pro
			20					25					30		
Ala	Pro	Ser	Ala	Gly	Ala	Arg	Ala	Val	Leu	Val	Pro	Val	Leu	Tyr	Leu
		35					40					45			
Leu	Val	Cys	Ala	Ala	Gly	Leu	Gly	Gly	Asn	Thr	Leu	Val	Ile	Tyr	Val
	50					55					60				
Val	Leu	Arg	Phe	Ala	Lys	Met	Lys	Thr	Val	Thr	Asn	Ile	Tyr	Ile	Leu
	65				70					75					80
Asn	Leu	Ala	Val	Ala	Asp	Val	Leu	Tyr	Met	Leu	Gly	Leu	Pro	Phe	Leu
				85					90					95	
Ala	Thr	Gln	Asn	Ala	Ala	Ser	Phe	Trp	Pro	Phe	Gly	Pro	Val	Leu	Cys
			100					105					110		
Arg	Leu	Val	Met	Thr	Leu	Asp	Gly	Val	Asn	Gln	Phe	Thr	Ser	Val	Phe
		115					120					125			
Cys	Leu	Thr	Val	Met	Ser	Val	Asp	Arg	Tyr	Leu	Ala	Val	Val	His	Pro
	130					135					140				
Leu	Ser	Ser	Ala	Arg	Trp	Arg	Arg	Pro	Arg	Val	Ala	Lys	Leu	Ala	Ser
	145				150					155					160
Ala	Ala	Ala	Trp	Val	Leu	Ser	Leu	Cys	Met	Ser	Leu	Pro	Leu	Leu	Val
			165						170					175	
Phe	Ala	Asp	Val	Gln	Glu	Gly	Gly	Thr	Cys	Asn	Ala	Ser	Trp	Pro	Glu
		180						185					190		
Pro	Val	Gly	Leu	Trp	Gly	Ala	Val	Phe	Ile	Ile	Tyr	Thr	Ala	Val	Leu
		195				200						205			
Gly	Phe	Phe	Ala	Pro	Leu	Leu	Val	Ile	Cys	Leu	Cys	Tyr	Leu	Leu	Ile
	210					215					220				
Val	Val	Lys	Val	Arg	Ala	Ala	Gly	Val	Arg	Val	Gly	Cys	Val	Arg	Arg
	225				230					235					240
Arg	Ser	Glu	Arg	Lys	Val	Lys	Arg	Met	Val	Leu	Val	Val	Val	Leu	Val
				245					250					255	
Phe	Ala	Gly	Cys	Trp	Leu	Pro	Phe	Phe	Thr	Val	Asn	Ile	Val	Asn	Leu
		260						265					270		
Ala	Val	Ala	Leu	Pro	Gln	Glu	Pro	Ala	Ser	Ala	Gly	Leu	Tyr	Phe	Phe
		275					280					285			
Val	Val	Ile	Leu	Ser	Tyr	Ala	Asn	Ser	Cys	Ala	Asn	Pro	Val	Leu	Tyr

290

295

300

Gly Phe Leu Ser Asp Asn Phe Arg Gln Ser Phe Gln Lys Val Leu Cys
305 310 315 320

Leu Arg Lys Gly Ser Gly Ala Lys Asp Ala Asp Ala Thr Glu Pro Arg
325 330 335

Pro Asp Arg Ile Arg Gln Gln Gln Glu Ala Thr Pro Pro Ala His Arg
340 345 350

Ala Ala Ala Asn Gly Leu Met Gln Thr Ser Lys Leu
355 360

<210> 578

<211> 1374

<212> DNA

<213> Homo sapiens

<400> 578

```

atgcgccccgc caagtccgct gccccccccgc tggctatgcg tgctggcagg cgccctcgcc 60
tggggcccttg ggccggcgggg cggccaggcg gccaggctgc aggaggagtg tgactatgtg 120
cagatgatcg aggtgcagca caagcagtgc ctggaggagg cccagctgga gaatgagaca 180
ataggctgca gcaagatgtg ggacaacctc acctgctggc cagccacccc tcgggggccag 240
gtagttgtct tggcctgtcc cctcatcttc aagctcttct cctccattca aggccgcaat 300
gtaagccgca gctgcaccga cgaaggctgg acgcacctgg agcctggccc gtacccatt 360
gcctgtggtt tggatgacaa ggcagcgagt ttggatgagc agcagaccat gttctacggt 420
tctgtgaaga ccggctacac catcggttac ggctgtccc tcgccaccct tctggtcgcc 480
acagctatcc tgagcctggt caggaagctc cactgcacgc ggaactacat ccacatgcac 540
ctcttcatat ccttcattct gagggctgcc gctgtcttca tcaaagactt ggccctcttc 600
gacagcgggg agtcggacca gtgctccgag ggctcgggtg gctgtaaggc agccatggtc 660
tttttccaat attgtgtcat ggctaacttc ttctggctgc tgggtggagg cctctacctg 720
tacaccctgc ttgcggtctc cttcttctct gagcgggaagt acttctgggg gtacatactc 780
atcggtggtg gggtaaccag cacattcacc atgggtgtgga ccatcgccag gatccatttt 840
gaggattatg ggtgctggga caccatcaac tcttactgt ggtggatcat aaagggcccc 900
atcctcacct ccattcttgt aaacttcata ctgtttatit gcatcatccg aatcctgctt 960
cagaaactgc ggccccccaga tatcaggaag agtgacagca gtccatactc aaggctagcc 1020
aggtccccac tctgtctgat ccccctgttt ggagtacact acatcatgtt cgcttctttt 1080
ccggacaatt ttaagcctga agtgaagatg gtctttgagc tcgtcgtggg gtctttccag 1140
ggttttgttg tggctatcct ctactgcttc ctcaatggtg aggtgcaggc ggagctgagg 1200
cggaagtggc ggcgctggca cctgcagggc gtctgtggct ggaaccccaa ataccggcac 1260
ccgtcgggag gcagcaacgg cgccacgtgc agcacgcagg tttccatgct gacccgcgtc 1320
agcccagggtg cccgccgctc ctccagcttc caagccgaag tctccctggt ctga 1374

```

<210> 579

<211> 457

<212> PRT

<213> Homo sapiens

<400> 579

Met Arg Pro Pro Ser Pro Leu Pro Ala Arg Trp Leu Cys Val Leu Ala
1 5 10 15

Gly Ala Leu Ala Trp Ala Leu Gly Pro Ala Gly Gly Gln Ala Ala Arg
20 25 30

Ser Arg Leu Ala Arg Ser Pro Leu Leu Leu Ile Pro Leu Phe Gly Val
340 345 350

His Tyr Ile Met Phe Ala Phe Phe Pro Asp Asn Phe Lys Pro Glu Val
355 360 365

Lys Met Val Phe Glu Leu Val Val Gly Ser Phe Gln Gly Phe Val Val
370 375 380

Ala Ile Leu Tyr Cys Phe Leu Asn Gly Glu Val Gln Ala Glu Leu Arg
385 390 395 400

Arg Lys Trp Arg Arg Trp His Leu Gln Gly Val Leu Gly Trp Asn Pro
405 410 415

Lys Tyr Arg His Pro Ser Gly Gly Ser Asn Gly Ala Thr Cys Ser Thr
420 425 430

Gln Val Ser Met Leu Thr Arg Val Ser Pro Gly Ala Arg Arg Ser Ser
435 440 445

Ser Phe Gln Ala Glu Val Ser Leu Val
450 455

<210> 580
<211> 1317
<212> DNA
<213> Homo sapiens

<400> 580
atgcggacgc tgctgcctcc cgcgctgctg acctgctggc tgctcgcccc cgtgaacagc 60
attcaccagc aatgccgatt tcatctggaa atacaggagg aagaaacaaa atgtacagag 120
cttctgaggt ctcaaacaga aaaacacaaa gcctgcagtg gcgtctggga caacatcacg 180
tgctggcggc ctgccaatgt gggagagacc gtcacggtgc cctgccc aaa agtcttcagc 240
aatttttaca gcaaagcagg aacataagc aaaaactgta cgagtgcagg atggtcagag 300
acgttcccag atttctgaga tgcctgtggc tacagcgacc cggaggatga gagcaagatc 360
acgttttata ttctgggtgaa ggccatttat accctgggct acagtgtctc tctgatgtct 420
cttgcaacag gaagcataat tctgtgcctc ttcaggaagc tgcactgcac caggaattac 480
atccacctga acctgttctt gtccttcctc ctgagagcca tctcagtgtc ggtcaaggac 540
gacgttctct actccagctc tggcacgttg cactgccctg accagccatc ctccctgggtg 600
ggctgcaagc tgagcctggt ctccctgcag tactgcac tggccaaact cttctggctg 660
ctggtggagg ggctctacct ccacaccctc ctggtggcca tgctcccccc tagaagggtg 720
ttcctggcct acctcctgat cggatggggc ctccccaccg tctgcatcgg tgcattggact 780
gcgggccaggc tctacttaga agacaccggt tgctgggata caaacgacca cagtgtgccc 840
tggtgggtca tacgaatacc gattttaatt tccatcatcg tcaattttgt ccttttcatt 900
agtattatac gaattttgct gcagaagtta acatccccag atgtcggcgg caacgaccag 960
tctcagtaca agaggctggc caagtccccg ctctctgctt tcccgtgtt cggcgtccac 1020
tacatgggtg ttgcctgtgt tcccctcagc atctcctcca aataccagat actgtttgag 1080
ctgtgcctcg ggtcgttcca gggcctgggt gtggccgtcc tctactgttt cctgaacagt 1140
gaggtgcagt gcgagctgaa gcgaaaatgg cgaagccggt gcccgacccc gtccgcgagc 1200
cgggattaca gggctctcggg ttctctcttc tcccacaacg gctcggaggg cgcctgcag 1260
ttccaccgcg cgtcccagagc ccagtccttc ctgcaaacgg agacctcggc catctag 1317

<210> 581

<211> 438
 <212> PRT
 <213> Homo sapiens

<400> 581

```

Met Arg Thr Leu Leu Pro Pro Ala Leu Leu Thr Cys Trp Leu Leu Ala
  1          5          10          15

Pro Val Asn Ser Ile His Pro Glu Cys Arg Phe His Leu Glu Ile Gln
          20          25          30

Glu Glu Glu Thr Lys Cys Thr Glu Leu Leu Arg Ser Gln Thr Glu Lys
          35          40          45

His Lys Ala Cys Ser Gly Val Trp Asp Asn Ile Thr Cys Trp Arg Pro
          50          55          60

Ala Asn Val Gly Glu Thr Val Thr Val Pro Cys Pro Lys Val Phe Ser
          65          70          75          80

Asn Phe Tyr Ser Lys Ala Gly Asn Ile Ser Lys Asn Cys Thr Ser Asp
          85          90          95

Gly Trp Ser Glu Thr Phe Pro Asp Phe Val Asp Ala Cys Gly Tyr Ser
          100          105          110

Asp Pro Glu Asp Glu Ser Lys Ile Thr Phe Tyr Ile Leu Val Lys Ala
          115          120          125

Ile Tyr Thr Leu Gly Tyr Ser Val Ser Leu Met Ser Leu Ala Thr Gly
          130          135          140

Ser Ile Ile Leu Cys Leu Phe Arg Lys Leu His Cys Thr Arg Asn Tyr
          145          150          155          160

Ile His Leu Asn Leu Phe Leu Ser Phe Ile Leu Arg Ala Ile Ser Val
          165          170          175

Leu Val Lys Asp Asp Val Leu Tyr Ser Ser Ser Gly Thr Leu His Cys
          180          185          190

Pro Asp Gln Pro Ser Ser Trp Val Gly Cys Lys Leu Ser Leu Val Phe
          195          200          205

Leu Gln Tyr Cys Ile Met Ala Asn Phe Phe Trp Leu Leu Val Glu Gly
          210          215          220

Leu Tyr Leu His Thr Leu Leu Val Ala Met Leu Pro Pro Arg Arg Cys
          225          230          235          240

Phe Leu Ala Tyr Leu Leu Ile Gly Trp Gly Leu Pro Thr Val Cys Ile
          245          250          255

Gly Ala Trp Thr Ala Ala Arg Leu Tyr Leu Glu Asp Thr Gly Cys Trp
          260          265          270

Asp Thr Asn Asp His Ser Val Pro Trp Trp Val Ile Arg Ile Pro Ile
  
```

275	280	285
Leu Ile Ser Ile Ile Val	Asn Phe Val Leu Phe	Ile Ser Ile Ile Arg
290	295	300
Ile Leu Leu Gln Lys	Leu Thr Ser Pro Asp	Val Gly Gly Asn Asp Gln
305	310	315 320
Ser Gln Tyr Lys Arg	Leu Ala Lys Ser Pro	Leu Leu Leu Ile Pro Leu
325	330	335
Phe Gly Val His Tyr	Met Val Phe Ala Val	Phe Pro Ile Ser Ile Ser
340	345	350
Ser Lys Tyr Gln Ile	Leu Phe Glu Leu Cys	Leu Gly Ser Phe Gln Gly
355	360	365
Leu Val Val Ala Val	Leu Tyr Cys Phe Leu	Asn Ser Glu Val Gln Cys
370	375	380
Glu Leu Lys Arg Lys	Trp Arg Ser Arg Cys	Pro Thr Pro Ser Ala Ser
385	390	395 400
Arg Asp Tyr Arg Val	Cys Gly Ser Ser Phe	Ser His Asn Gly Ser Glu
405	410	415
Gly Ala Leu Gln Phe	His Arg Ala Ser Arg	Ala Gln Ser Phe Leu Gln
420	425	430
Thr Glu Thr Ser Val	Ile	
435		

<210> 582
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 582
 gatctctaga atgaggccgg cggacttgct gc

32

<210> 583
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 583
 ctaggatatc cgcaaaaccg ttgcatata ctc

33

<210> 584
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 584

gtgaagcttg cccgggcagg atggacctgg

30

<210> 585
<211> 24
<212> DNA
<213> Homo sapiens

<400> 585
atctagaggt gcctttgctt tctg

24

<210> 586
<211> 3549
<212> DNA
<213> Homo sapiens

<400> 586
atgaggccgg cggacttgct gcagctgggt ctgctgctcg acctgcccag ggacctgggc 60
ggaatggggg gttcgtctcc accctgcgag tgccatcagg aggaggactt cagagtcacc 120
tgcaaggata ttcaacgcat cccagctta cgcagactct gaagcttatt 180
gagactcacc tgagaactat tccaagtcac gcatthttcta atctgcccac tatttccaga 240
atctacgtat ctatagatgt gactctgcag cagctggaat cactctcctt ctacaatttg 300
agtaaagtga ctacataga aattcggaa accaggaaact taacttacat agacctgat 360
gccctcaaag agctccccct cctaaagtcc ttggcatttt caaacactgg acttaaaatg 420
ttccctgacc tgaccaaagt ttattccact gatataattct ttatacttga aattacagac 480
aacccttaca tgacgtcaat ccctgtgaat gcttttcagg gactatgcaa tgaaaccttg 540
aactgaagc tgtacaacaa tggctttact tcagttccaag gatattgatt ctttgggaca 600
aagctggatg ctgtttacct aaacaagaat aaatacctga cagttattga caaagatgca 660
tttgaggagg tatacagtgg accaagcttg ctggacgtgt ctcaaaccag tgtcactgcc 720
cttccatcca aaggcctgga gcacctgaag gaactgatag caagaaacag ctggactctt 780
aagaaacttg cactttcctt gactttcctt cactcacac gggctgacct ttcttaccac 840
agccactgct gtgcttttaa gaatcagaag aaaatcagag gaatccttga gtccctgatg 900
tgtaagtaga gcagtatcga gacgttgctg cagagaaaat ctgtgaatgc cttgaatagc 960
cccctccacc aggaatatga agagaatctg ggtgacagca ttgttgggta caaggaaaag 1020
tccaagttcc aggatactca taacaacgct cattattacg tottttttga agaacaagag 1080
gatgagatca ttgggttttg ccaggagctc aaaaaccccc aggaagagac tctacaagct 1140
tttgacagcc attatgacta caccatattg ggggacagtg aagacatggt gtgtaccccc 1200
aagtcggatg agttcaaccc gtgtgaagac ataatgggct acaagttcct gagaattgtg 1260
gtgtgggttg ttagtctgct ggctctcctg ggcaatgtct ttgtcctgct tattctcctc 1320
accagccact acaaaactgaa cgtccccgcg tttctcatgt gcaacctggc ctttgcggat 1380
ttctgcatgg ggatgtacct gctcctcatc gcctctgtag acctctacac tcaactctgag 1440
tactacaacc atgccatcga ctggcagaca ggccctgggt gcaacacggc tggttttctt 1500
actgtctttg caagcgagtt atcggtgtat acgctgacgg tcatcacccct ggagcgctgg 1560
tatgccatca ccttcgccat ggccctggac cggaagatcc gcctcaggca cgcattgtgc 1620
atcatgggtg ggggctgggt ttgctgcttc cttctcgccc tgcttccttt ggtgggaata 1680
agtagctatg ccaaagtcag tatctgctg cccatggaca ccgagacccc tcttgctctg 1740
gcataatatt tttttgttct gacgctcaac atagttgcct tcgtcatcgt ctgctgctgt 1800
tatgtgaaga tctacatcac agtccgaaat ccgcagtaca acccagggga caaagatacc 1860
aaaattaaga agaggatggc tgtgttgatc ttcaccgact tcacgtgcat ggccccaatc 1920
tcattctatg ctgtgtcagc aattctgaac aagcctctca tcaactgttag caactccaaa 1980
atcttgctgg tactcttcta tccaattaac tctgtgcca atccattcct ctatgctatt 2040
ttcaccaagg ccttcagag ggatgtgttc atctactca gcaagtttg catctgtaaa 2100
cgccaggctc aggcataccg ggggcagagg gttcctccaa agaacagcac tgatattcag 2160
gttcaaaagg ttaccacaga catgaggcag ggtctccaca acatggaaga tgtctatgaa 2220
ctgattgaaa actcccatct aaccccaaag aagcaaggcc aaatctcaga agagtatatg 2280
caaacggttt tggcgatatc tgcagaattc caccacactg gactagtgga tccgagctcg 2340

```

gtaccaagct tgggctgcag gtcgatgggc tgcctcggca acagtaagac cgaggaccag 2400
cgcaacgagg agaaggcgca gcgcgaggcc aacaaaaaga tcgagaagca gctgcagaag 2460
gacaagcagg tctaccgggc cacgcaccgc ctgctgctgc tgggtgctgg agagtctggc 2520
aaaagcacca ttgtgaagca gatgaggatc ctacatgtta atgggtttta cggagagggc 2580
ggcgaagagg acccgaggc tgcaaggagc aacagcgatg gtgagaaggc caccaaagtg 2640
caggacatca aaaacaacct gaaggaggcc attgaaacca ttgtggccgc catgagcaac 2700
ctggtgcccc ccgtggagct ggccaaccct gagaaccagt tcagagtgga ctacattctg 2760
agcgtgatga acgtgccaaa ctttgacttc ccacctgaat tctatgagca tgccaaggct 2820
ctgtgggagg atgagggagt tctgtcctgc tacgagcgct ccaacgagta ccagctgatc 2880
gactgtgccc agtacttctt ggacaagatt gatgtgatca agcaggccga ctacgtgcca 2940
agtgaccagg acctgcttcg ctgccgcgtc ctgacctctg gaatctttga gaccaagttc 3000
caggtggaca aagtcaactt ccacatgttc gatgtgggag gccagcgaga tgaacgccgc 3060
aagtggatcc agtgcttcaa tgatgtgact gccatcatct tcgtggtggc cagcagcagc 3120
tacaacatgg tcatccggga ggacaaccag accaaccgtc tgcaggaggc tctgaacctc 3180
ttcaagagca tctggaacaa cagatggctg cgtaccatct ctgtgatcct ctctctcaac 3240
aagcaagatc tgcttgctga gaaggtcctc gctgggaaat cgaagattga ggactacttt 3300
ccagagttcg ctgcgtacac cactcctgag gatgcgactc ccgagccgg agaggaccca 3360
cgcgtagccc gggccaagta cttcatccgg gatgagtttc tgagaatcag cactgctagt 3420
ggagatggac gtcactactg ctaccctcac tttacctgcg ccgtggacac tgagaacatc 3480
cgccgtgtct tcaacgactg ccgtgacatc atccagcgca tgcattcttg ccaatacagag 3540
ctgctctaa

```

<210> 587

<211> 1181

<212> PRT

<213> Homo sapiens

<400> 587

Met Arg Pro Ala Asp Leu Leu Gln Leu Val Leu Leu Leu Asp Leu Pro
1 5 10 15

Arg Asp Leu Gly Gly Met Gly Cys Ser Ser Pro Pro Cys Glu Cys His
20 25 30

Gln Glu Glu Asp Phe Arg Val Thr Cys Lys Asp Ile Gln Arg Ile Pro
35 40 45

Ser Leu Pro Pro Ser Thr Gln Thr Leu Lys Leu Ile Glu Thr His Leu
50 55 60

Arg Thr Ile Pro Ser His Ala Phe Ser Asn Leu Pro Asn Ile Ser Arg
65 70 75 80

Ile Tyr Val Ser Ile Asp Val Thr Leu Gln Gln Leu Glu Ser His Ser
85 90 95

Phe Tyr Asn Leu Ser Lys Val Thr His Ile Glu Ile Arg Asn Thr Arg
100 105 110

Asn Leu Thr Tyr Ile Asp Pro Asp Ala Leu Lys Glu Leu Pro Leu Leu
115 120 125

Lys Ser Leu Ala Phe Ser Asn Thr Gly Leu Lys Met Phe Pro Asp Leu
130 135 140

Thr Lys Val Tyr Ser Thr Asp Ile Phe Phe Ile Leu Glu Ile Thr Asp

145				150					155					160	
Asn	Pro	Tyr	Met	Thr 165	Ser	Ile	Pro	Val	Asn 170	Ala	Phe	Gln	Gly	Leu 175	Cys
Asn	Glu	Thr	Leu 180	Thr	Leu	Lys	Leu	Tyr 185	Asn	Asn	Gly	Phe	Thr 190	Ser	Val
Gln	Gly	Tyr 195	Asp	Phe	Phe	Gly	Thr 200	Lys	Leu	Asp	Ala	Val 205	Tyr	Leu	Asn
Lys	Asn 210	Lys	Tyr	Leu	Thr	Val 215	Ile	Asp	Lys	Asp	Ala 220	Phe	Gly	Gly	Val
Tyr 225	Ser	Gly	Pro	Ser	Leu 230	Leu	Asp	Val	Ser	Gln 235	Thr	Ser	Val	Thr	Ala 240
Leu	Pro	Ser	Lys	Gly 245	Leu	Glu	His	Leu	Lys 250	Glu	Leu	Ile	Ala	Arg 255	Asn
Ser	Trp	Thr	Leu 260	Lys	Lys	Leu	Ala	Leu 265	Ser	Leu	Ser	Phe	Leu 270	His	Leu
Thr	Arg	Ala 275	Asp	Leu	Ser	Tyr	Pro 280	Ser	His	Cys	Cys	Ala 285	Phe	Lys	Asn
Gln	Lys 290	Lys	Ile	Arg	Gly	Ile 295	Leu	Glu	Ser	Leu	Met 300	Cys	Asn	Glu	Ser
Ser 305	Ile	Glu	Thr	Leu	Arg 310	Gln	Arg	Lys	Ser	Val 315	Asn	Ala	Leu	Asn	Ser 320
Pro	Leu	His	Gln	Glu 325	Tyr	Glu	Glu	Asn	Leu 330	Gly	Asp	Ser	Ile	Val 335	Gly
Tyr	Lys	Glu	Lys 340	Ser	Lys	Phe	Gln	Asp 345	Thr	His	Asn	Asn	Ala 350	His	Tyr
Tyr	Val	Phe 355	Phe	Glu	Glu	Gln	Glu 360	Asp	Glu	Ile	Ile	Gly 365	Phe	Gly	Gln
Glu 370	Leu	Lys	Asn	Pro	Gln	Glu 375	Glu	Thr	Leu	Gln	Ala 380	Phe	Asp	Ser	His
Tyr 385	Asp	Tyr	Thr	Ile	Cys 390	Gly	Asp	Ser	Glu	Asp 395	Met	Val	Cys	Thr	Pro 400
Lys	Ser	Asp	Glu	Phe 405	Asn	Pro	Cys	Glu	Asp 410	Ile	Met	Gly	Tyr	Lys 415	Phe
Leu	Arg	Ile	Val 420	Val	Trp	Phe	Val	Ser 425	Leu	Leu	Ala	Leu	Leu 430	Gly	Asn
Val	Phe 435	Val	Leu	Leu	Ile	Leu	Leu 440	Thr	Ser	His	Tyr	Lys 445	Leu	Asn	Val
Pro	Arg	Phe	Leu	Met	Cys	Asn	Leu	Ala	Phe	Ala	Asp	Phe	Cys	Met	Gln

450					455					460					
Met 465	Tyr	Leu	Leu	Leu	Ile 470	Ala	Ser	Val	Asp	Leu 475	Tyr	Thr	His	Ser	Glu 480
Tyr	Tyr	Asn	His	Ala 485	Ile	Asp	Trp	Gln	Thr 490	Gly	Pro	Gly	Cys	Asn 495	Thr
Ala	Gly	Phe	Phe 500	Thr	Val	Phe	Ala	Ser 505	Glu	Leu	Ser	Val	Tyr 510	Thr	Leu
Thr	Val	Ile 515	Thr	Leu	Glu	Arg	Trp 520	Tyr	Ala	Ile	Thr	Phe 525	Ala	Met	Ala
Leu	Asp 530	Arg	Lys	Ile	Arg	Leu 535	Arg	His	Ala	Cys	Ala 540	Ile	Met	Val	Gly
Gly 545	Trp	Val	Cys	Cys	Phe 550	Leu	Leu	Ala	Leu	Leu 555	Pro	Leu	Val	Gly	Ile 560
Ser	Ser	Tyr	Ala	Lys 565	Val	Ser	Ile	Cys	Leu 570	Pro	Met	Asp	Thr	Glu 575	Thr
Pro	Leu	Ala	Leu 580	Ala	Tyr	Ile	Val	Phe 585	Val	Leu	Thr	Leu	Asn 590	Ile	Val
Ala	Phe 595	Val	Ile	Val	Cys	Cys	Cys 600	Tyr	Val	Lys	Ile	Tyr 605	Ile	Thr	Val
Arg 610	Asn	Pro	His	Asn	Pro	Gly 615	Asp	Lys	Asp	Thr	Lys 620	Ile	Ala	Lys	Arg
Met 625	Ala	Val	Leu	Ile	Phe 630	Thr	Asp	Phe	Thr	Cys 635	Met	Ala	Pro	Ile	Ser 640
Phe	Tyr	Ala	Val	Ser 645	Ala	Ile	Leu	Asn	Lys 650	Pro	Leu	Ile	Thr	Val 655	Ser
Asn	Ser	Lys 660	Ile	Leu	Leu	Val	Leu	Phe 665	Tyr	Pro	Ile	Asn 670	Ser	Cys	Ala
Asn	Pro 675	Phe	Leu	Tyr	Ala	Ile	Phe 680	Thr	Lys	Ala	Phe	Gln 685	Arg	Asp	Val
Phe 690	Ile	Leu	Leu	Ser	Lys	Phe 695	Gly	Ile	Cys	Lys	Arg 700	Gln	Ala	Gln	Ala
Tyr 705	Arg	Gly	Gln	Arg	Val 710	Pro	Pro	Lys	Asn	Ser 715	Thr	Asp	Ile	Gln	Val 720
Gln	Lys	Val	Thr 725	His	Asp	Met	Arg	Gln	Gly 730	Leu	His	Asn	Met	Glu 735	Asp
Val	Tyr	Glu 740	Leu	Ile	Glu	Asn	Ser	His 745	Leu	Thr	Pro	Lys	Lys 750	Gln	Gly
Gln	Ile	Ser	Glu	Glu	Tyr	Met	Gln	Thr	Val	Leu	Ala	Ile	Ser	Ala	Gln

6022360 040500

755	760	765
Phe His His Thr Gly Leu Val Asp Pro Ser Ser Val Pro Ser Leu Gly		
770	775	780
Cys Arg Ser Met Gly Cys Leu Gly Asn Ser Lys Thr Glu Asp Gln Arg		
785	790	795
Asn Glu Glu Lys Ala Gln Arg Glu Ala Asn Lys Lys Ile Glu Lys Gln		
805	810	815
Leu Gln Lys Asp Lys Gln Val Tyr Arg Ala Thr His Arg Leu Leu Leu		
820	825	830
Leu Gly Ala Gly Glu Ser Gly Lys Ser Thr Ile Val Lys Gln Met Arg		
835	840	845
Ile Leu His Val Asn Gly Phe Asn Gly Glu Gly Gly Glu Glu Asp Pro		
850	855	860
Gln Ala Ala Arg Ser Asn Ser Asp Gly Glu Lys Ala Thr Lys Val Gln		
865	870	875
Asp Ile Lys Asn Asn Leu Lys Glu Ala Ile Glu Thr Ile Val Ala Ala		
885	890	895
Met Ser Asn Leu Val Pro Pro Val Glu Leu Ala Asn Pro Glu Asn Gln		
900	905	910
Phe Arg Val Asp Tyr Ile Leu Ser Val Met Asn Val Pro Asn Phe Asp		
915	920	925
Phe Pro Pro Glu Phe Tyr Glu His Ala Lys Ala Leu Trp Glu Asp Glu		
930	935	940
Gly Val Arg Ala Cys Tyr Glu Arg Ser Asn Glu Tyr Gln Leu Ile Asp		
945	950	955
Cys Ala Gln Tyr Phe Leu Asp Lys Ile Asp Val Ile Lys Gln Ala Asp		
965	970	975
Tyr Val Pro Ser Asp Gln Asp Leu Leu Arg Cys Arg Val Leu Thr Ser		
980	985	990
Gly Ile Phe Glu Thr Lys Phe Gln Val Asp Lys Val Asn Phe His Met		
995	1000	1005
Phe Asp Val Gly Gly Gln Arg Asp Glu Arg Arg Lys Trp Ile Gln Cys		
1010	1015	1020
Phe Asn Asp Val Thr Ala Ile Ile Phe Val Val Ala Ser Ser Ser Tyr		
1025	1030	1035
Asn Met Val Ile Arg Glu Asp Asn Gln Thr Asn Arg Leu Gln Glu Ala		
1045	1050	1055
Leu Asn Leu Phe Lys Ser Ile Trp Asn Asn Arg Trp Leu Arg Thr Ile		

1060	1065	1070
Ser Val Ile Leu Phe Leu Asn Lys Gln Asp Leu Leu Ala Glu Lys Val		
1075	1080	1085
Leu Ala Gly Lys Ser Lys Ile Glu Asp Tyr Phe Pro Glu Phe Ala Arg		
1090	1095	1100
Tyr Thr Thr Pro Glu Asp Ala Thr Pro Glu Pro Gly Glu Asp Pro Arg		
1105	1110	1115
Val Thr Arg Ala Lys Tyr Phe Ile Arg Asp Glu Phe Leu Arg Ile Ser		
1125	1130	1135
Thr Ala Ser Gly Asp Gly Arg His Tyr Cys Tyr Pro His Phe Thr Cys		
1140	1145	1150
Ala Val Asp Thr Glu Asn Ile Arg Arg Val Phe Asn Asp Cys Arg Asp		
1155	1160	1165
Ile Ile Gln Arg Met His Leu Arg Gln Tyr Glu Leu Leu		
1170	1175	1180

<210> 588
 <211> 2133
 <212> DNA
 <213> Homo sapiens

<400> 588

atggacctgg	aagcctcgct	gctgcccact	ggccccaatg	ccagcaacac	ctctgatggc	60
cccgataacc	tcacttcggc	aggatcacct	cctcgcacgg	ggagcatctc	ctacatcaac	120
atcatcatgc	cttcgggtgt	cggcaccatc	tgcctcctgg	gcatcatcgg	gaactccaac	180
gtcatcttcg	cggtcgtgaa	gaagtccaag	ctgcactggg	gcaacaacgt	ccccgacatc	240
ttcatcatca	acctctcggt	agtagatctc	ctctttctcc	tgggcatgcc	cttcatgatc	300
caccagctca	tgggcaatgg	ggtgtggcac	tttggggaga	ccatgtgcac	cctcatcaac	360
gccatggatg	ccaatagtca	gttcaccagc	acctacatcc	tgaccgccat	ggccattgac	420
cgctacctgg	ccactgtcca	ccccatctct	tccacgaagt	tccggaagcc	ctctgtggcc	480
accctgggtg	tctgcctcct	gtgggccctc	tccttcatca	gcatcaccac	tgtgtggctg	540
tatgccagac	tcatcccctt	cccaggaggt	gcagtgggct	gcggcatacg	cctgcccac	600
ccagacactg	acctctactg	gttcaccctg	taccagtttt	tcctggcctt	tgcctgcct	660
tttgtgggtc	tcacagccgc	atacgtgagg	atcctgcagc	gcatgacgtc	ctcagtggcc	720
ccgcctccc	agcgcagcat	ccggctgcgg	acaaagaggg	tgaccgcgac	agccatcgcc	780
atctgtcttg	tcttctttgt	gtgctgggca	ccctactatg	tgctacagct	gaccagttg	840
tccatcagcc	gcccgaacct	cacctttgtc	tacttatata	atgcggccat	cagcttgggc	900
tatgccaaac	gctgcctcaa	cccctttgtg	tacatcgtgc	tctgtgagac	gttccgcaaa	960
cgcttgggtc	tgtcgggtgaa	gcctgcagcc	caggggcagc	ttcgcgctgt	cagcaacgct	1020
cagacggctg	acgaggagag	gacagaaaag	aaaggcacct	ctagaatggg	ctgcacactg	1080
agcgtgagg	acaaggcggc	cgtggagcgc	agcaagatga	tcgaccgcaa	cctccggggg	1140
gacggagaga	aggcagcgcg	cgaggtcaag	ctgctgctgc	tgggtgctgg	tgaatccggg	1200
aagagcacia	ttgtgaagca	gatgaaaatt	atccacgagg	ctggctactc	agagggaagag	1260
tgtaagcagt	acaaagcagt	ggtctacagc	aacaccatcc	agtccatcat	tgccatcatt	1320
agagccatgg	ggagattgaa	aatcgacttt	ggagacgctg	ctcgtgcgga	tgatgctcgc	1380
caactcttcg	tgcttgctgg	ggctgcagag	gaaggcttta	tgaccgcgga	gctcgcgggc	1440
gtcataaaga	gactgtggaa	ggacagcggt	gtgcaagcct	gcttcaacag	atcccgggag	1500
taccagctga	acgattcggc	ggcgctactac	ctgaatgact	tggaacagaat	agcacaacca	1560
aattacatcc	caaccagca	ggatgttctc	agaactagag	tgaaaacgac	gggaattgtg	1620

```

gaaacccact ttactttcaa agatcttcat tttaaaatgt ttgacgtggg aggccagaga 1680
tcagagcgga agaagtggat tctactgctt gaaggcgtga ctgccatcat cttctgtgtg 1740
gccctgagtg actatgacct ggttcttgct gaggatgaag aaatgaaccg gatgcatgaa 1800
agcatgaagc tgttcgatag catatgtaac aacaagtggg ttacggacac atccatcatc 1860
cttttctga acaagaagga cctcttcgaa gagaagatca aaaagagtcc cctcacgata 1920
tgctatccag aatatgcagg ctcaaacaca tatgaagagg cggctgcgta tatccagtgt 1980
cagtttgaag acctcaataa aaggaaggac acaaaggaaa tttacaccca cttcacttgc 2040
gccacggata cgaagaatgt gcagtttgtg ttcgatgctg taacggacgt catcataaag 2100
aataacctaa aagactgtgg tctcttctaa tct 2133

```

<210> 589

<211> 709

<212> PRT

<213> Homo sapiens

<400> 589

```

Met Asp Leu Glu Ala Ser Leu Leu Pro Thr Gly Pro Asn Ala Ser Asn
  1              5              10              15

Thr Ser Asp Gly Pro Asp Asn Leu Thr Ser Ala Gly Ser Pro Pro Arg
          20              25              30

Thr Gly Ser Ile Ser Tyr Ile Asn Ile Ile Met Pro Ser Val Phe Gly
      35              40              45

Thr Ile Cys Leu Leu Gly Ile Ile Gly Asn Ser Thr Val Ile Phe Ala
      50              55              60

Val Val Lys Lys Ser Lys Leu His Trp Cys Asn Asn Val Pro Asp Ile
      65              70              75              80

Phe Ile Ile Asn Leu Ser Val Val Asp Leu Leu Phe Leu Leu Gly Met
          85              90              95

Pro Phe Met Ile His Gln Leu Met Gly Asn Gly Val Trp His Phe Gly
      100              105              110

Glu Thr Met Cys Thr Leu Ile Thr Ala Met Asp Ala Asn Ser Gln Phe
      115              120              125

Thr Ser Thr Tyr Ile Leu Thr Ala Met Ala Ile Asp Arg Tyr Leu Ala
      130              135              140

Thr Val His Pro Ile Ser Ser Thr Lys Phe Arg Lys Pro Ser Val Ala
      145              150              155              160

Thr Leu Val Ile Cys Leu Leu Trp Ala Leu Ser Phe Ile Ser Ile Thr
          165              170              175

Pro Val Trp Leu Tyr Ala Arg Leu Ile Pro Phe Pro Gly Gly Ala Val
          180              185              190

Gly Cys Gly Ile Arg Leu Pro Asn Pro Asp Thr Asp Leu Tyr Trp Phe
      195              200              205

Thr Leu Tyr Gln Phe Phe Leu Ala Phe Ala Leu Pro Phe Val Val Ile

```

210	215	220
Thr Ala Ala Tyr Val Arg Ile Leu Gln Arg Met Thr Ser Ser Val Ala 225 230 235 240		
Pro Ala Ser Gln Arg Ser Ile Arg Leu Arg Thr Lys Arg Val Thr Arg 245 250 255		
Thr Ala Ile Ala Ile Cys Leu Val Phe Phe Val Cys Trp Ala Pro Tyr 260 265 270		
Tyr Val Leu Gln Leu Thr Gln Leu Ser Ile Ser Arg Pro Thr Leu Thr 275 280 285		
Phe Val Tyr Leu Tyr Asn Ala Ala Ile Ser Leu Gly Tyr Ala Asn Ser 290 295 300		
Cys Leu Asn Pro Phe Val Tyr Ile Val Leu Cys Glu Thr Phe Arg Lys 305 310 315 320		
Arg Leu Val Leu Ser Val Lys Pro Ala Ala Gln Gly Gln Leu Arg Ala 325 330 335		
Val Ser Asn Ala Gln Thr Ala Asp Glu Glu Arg Thr Glu Ser Lys Gly 340 345 350		
Thr Ser Arg Met Gly Cys Thr Leu Ser Ala Glu Asp Lys Ala Ala Val 355 360 365		
Glu Arg Ser Lys Met Ile Asp Arg Asn Leu Arg Glu Asp Gly Glu Lys 370 375 380		
Ala Ala Arg Glu Val Lys Leu Leu Leu Leu Gly Ala Gly Glu Ser Gly 385 390 395 400		
Lys Ser Thr Ile Val Lys Gln Met Lys Ile Ile His Glu Ala Gly Tyr 405 410 415		
Ser Glu Glu Glu Cys Lys Gln Tyr Lys Ala Val Val Tyr Ser Asn Thr 420 425 430		
Ile Gln Ser Ile Ile Ala Ile Ile Arg Ala Met Gly Arg Leu Lys Ile 435 440 445		
Asp Phe Gly Asp Ala Ala Arg Ala Asp Asp Ala Arg Gln Leu Phe Val 450 455 460		
Leu Ala Gly Ala Ala Glu Glu Gly Phe Met Thr Ala Glu Leu Ala Gly 465 470 475 480		
Val Ile Lys Arg Leu Trp Lys Asp Ser Gly Val Gln Ala Cys Phe Asn 485 490 495		
Arg Ser Arg Glu Tyr Gln Leu Asn Asp Ser Ala Ala Tyr Tyr Leu Asn 500 505 510		
Asp Leu Asp Arg Ile Ala Gln Pro Asn Tyr Ile Pro Thr Gln Gln Asp		

